

Rs. 3,665,813/-

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**CONTRACT FOR CONSULTANT'S SERVICES  
Time-Based (Phase 2)**

**Project Name: Karachi Mobility Project**

**Loan No. IBRD-89950**

**Assignment Title: Consulting Services in Preparation of Detailed Design, Procurement  
Support and Construction Supervision for Yellow Bus Rapid Transit Corridor**

**Contract No. PK-SMTA-122605-CS-QCBS**

between

**The Sindh Mass Transit Authority**

and

**M/s Dar-al-Handasah Consultants (Shair & Partners)  
In Joint Venture  
M/s National Engineering Services Pakistan (Pvt.) Ltd.**

Dated 2nd September August, 2021



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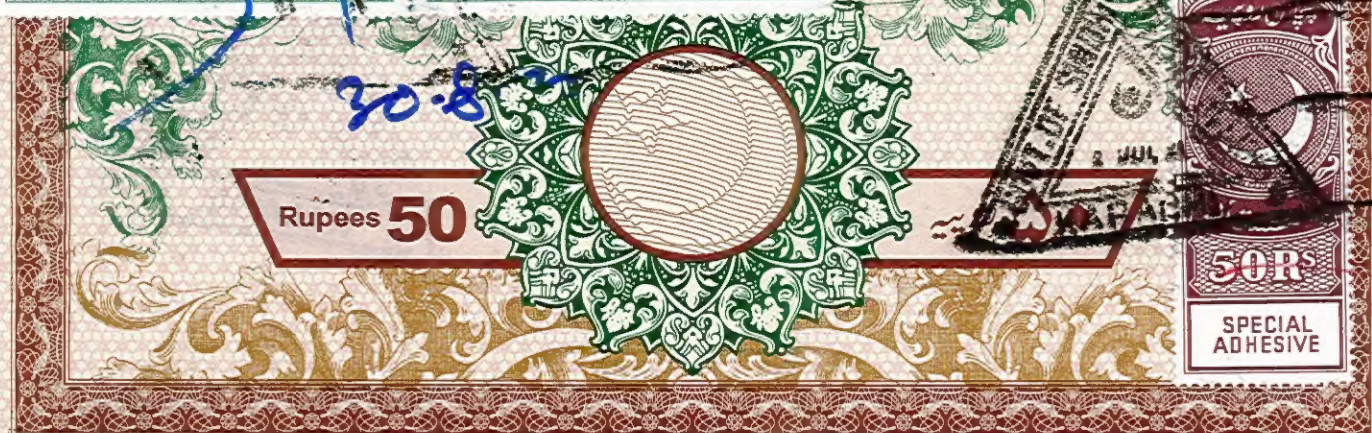
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 NICREG No. 2767 KBA  
 Adm D.S.R. No. 30 dt 25-5-21  
 In behalf of Challan No. 308 dt 25-5-21  
 for the purpose of  
 Entry No. 22 dt 25-5-21

OFFICE SUPERINTENDENT  
 Stamp Office, City Court  
 Karachi

## I. Form of Contract

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### LUMP-SUM (PHASE 2)

This CONTRACT (hereinafter called the "Contract") is made the 2nd day of the month of September August, 2021, between, on the one hand, Sindh Mass Transit Authority (hereinafter called the "Client") and, on the other hand, a Joint Venture "Dar Al Handasah Consultants (Shair and Partners) in joint venture with National Engineering Services Pakistan (Pvt) Limited" consisting of the following entities, each member of which will be jointly and severally liable to the Client for all the Consultant's obligations under this Contract, namely, M/s Dar-al-Handasah Consultants (Shair & Partners) and M/s National Engineering Services Pakistan (Pvt.) Ltd (hereinafter called the "Consultant").

### WHEREAS

- the Client has requested the Consultant to provide certain consulting services as defined in this Contract (hereinafter called the "Services");
- the Consultant, having represented to the Client that it has the required professional skills, expertise and technical resources, has agreed to provide the Services on the terms and conditions set forth in this Contract;
- the Client has received a loan from the International Bank for Reconstruction and Development (IBRD) toward the cost of the Services and intends to apply a portion of the proceeds of this loan to eligible payments under this Contract, it being understood that (i) payments by the Bank will be made only at the request of the Client and upon approval by the Bank; (ii) such payments will be subject, in all respects, to the terms and conditions of the loan agreement, including prohibitions of withdrawal from the loan account for the purpose of any payment to persons or entities, or for any import of goods, if such payment or import, to the knowledge of the Bank, is prohibited by the decision of the United Nations Security council taken under Chapter VII of the Charter of the United Nations; and (iii) no party other than the Client shall exercise any rights from the loan agreement or have any claim to the loan proceeds;



*[Handwritten signature]*





NOW THEREFORE the parties hereto hereby agree as follows:

1. The following documents attached hereto shall be deemed to form an integral part of this Contract:

- a) The General Conditions of Contract (including Attachment 1 "Fraud and Corruption");
- b) The Special Conditions of Contract;
- c) Appendices:

Appendix A: Terms of Reference

Appendix B: Key Experts

Appendix C: Remuneration Cost Estimates

Appendix D: Reimbursables Cost Estimates

Appendix E: Form of Advance Payments Guarantee

Appendix F: Code of Conduct (ES)

In the event of any inconsistency between the documents, the following order of precedence shall prevail: the Special Conditions of Contract; the General Conditions of Contract, including Attachment 1; Appendix A; Appendix B; Appendix C and Appendix D; Appendix E; and Appendix F. Any reference to this Contract shall include, where the context permits, a reference to its Appendices.

2. The mutual rights and obligations of the Client and the Consultant shall be as set forth in the Contract, in particular:

- a) the Consultant shall carry out the Services in accordance with the provisions of the Contract; and
- b) the Client shall make payments to the Consultant in accordance with the provisions of the Contract.

IN WITNESS WHEREOF, the Parties hereto have caused this Contract to be signed in their respective names as of the day and year first above written.

For and on behalf of Sindh Mass Transit Authority

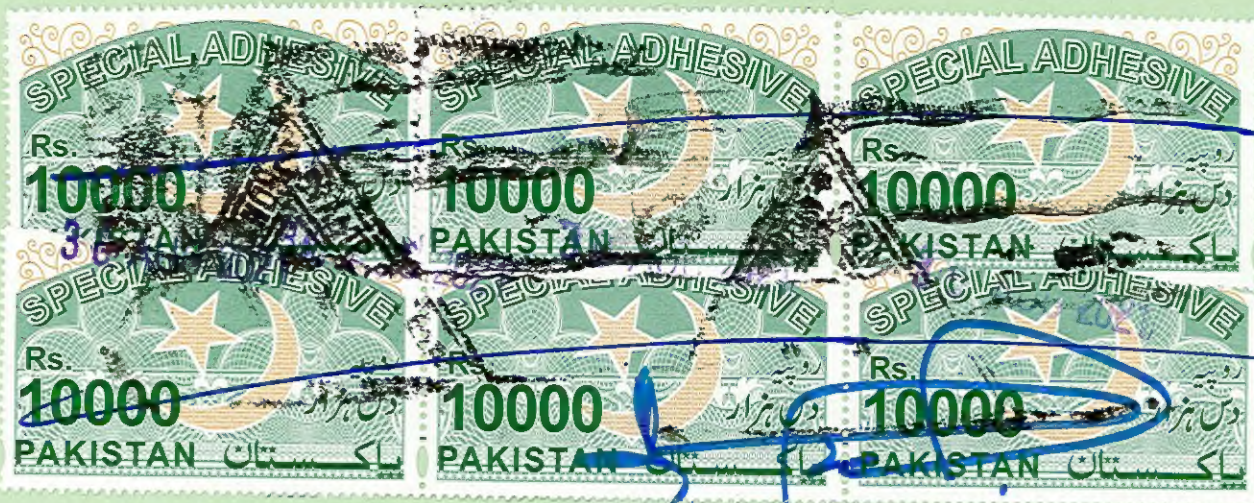
Project Director (Karachi Mobility Project)

For and on behalf of M/s Dar-al-Handasah Consultants (Shair & Partners) JV M/s National Engineering Services Pakistan (Pvt.) Ltd

Name and signature







## II. General Conditions of Contract

### A. GENERAL PROVISIONS

#### 1. Definitions

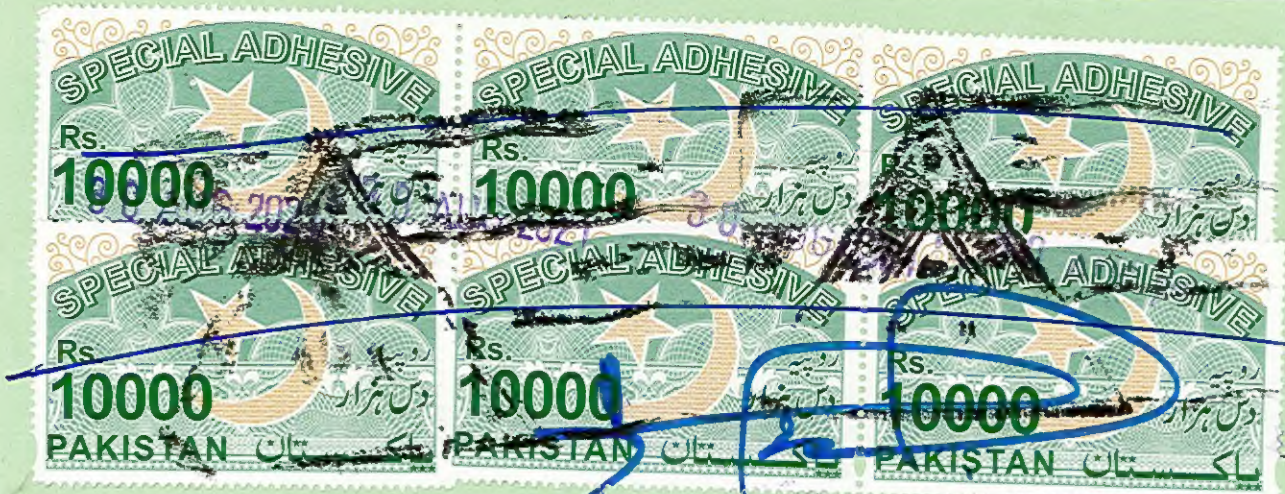
1.1. Unless the context otherwise requires, the following terms whenever used in this Contract have the following meanings:

- (a) **"Applicable Law"** means the laws and any other instruments having the force of law in the Client's country, or in such other country as may be specified in the **Special Conditions of Contract (SCC)**, as they may be issued and in force from time to time.
- (b) **"Bank"** means the International Bank for Reconstruction and Development (IBRD) or the International Development Association (IDA).
- (c) **"Borrower"** means the Government, Government agency or other entity that signs the financing agreement with the Bank.
- (d) **"Client"** means the implementing agency that signs the Contract for the Services with the Selected Consultant.
- (e) **"Client's Personnel"** refers to the staff, labor and other employees (if any) of the Client engaged in fulfilling the Client's obligations under the Contract; and any other personnel identified as Client's Personnel, by a notice from the Client to the Consultant.
- (f) **"Consultant"** means a legally-established professional consulting firm or entity selected by the Client to provide the Services under the signed Contract.
- (g) **"Contract"** means the legally binding written agreement signed between the Client and the Consultant and which includes all the attached documents listed in its paragraph 1 of the Form of Contract (the General Conditions (GCC), the Special Conditions (SCC), and the Appendices).
- (h) **"Contractor"** if applicable, means the person named as contractor in the contract to be supervised by the Consultant (if applicable).
- (i) **"Contractor's Personnel"** means personnel whom the Contractor utilizes in the execution of its contract, including the staff, labor and other employees of the Contractor and each subcontractor; and any other personnel assisting the Contractor in the execution of the contract to be supervised by the Consultant (if applicable).



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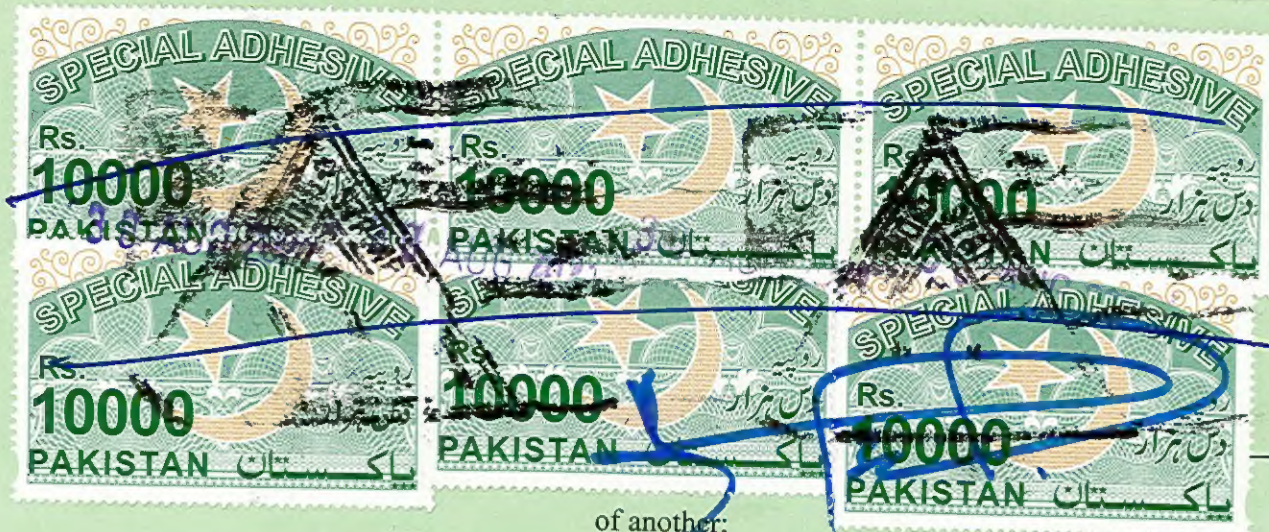


- (j) "Day" means a working day unless indicated otherwise.
- (k) "ES" means environmental and social (including Sexual Exploitation and Abuse (SEA) and Sexual Harassment (SH)).
- (l) "Effective Date" means the date on which this Contract comes into force and effect pursuant to Clause GCC 11.
- (m) "Experts" means, collectively, Key Experts, Non-Key Experts, or any other personnel of the Consultant, Sub-consultant or JV member(s) assigned by the Consultant to perform the Services or any part thereof under the Contract.
- (n) "Foreign Currency" means any currency other than the currency of the Client's country.
- (o) "GCC" means these General Conditions of Contract.
- (p) "Government" means the government of the Client's country.
- (q) "Joint Venture (JV)" means an association with or without a legal personality distinct from that of its members, of more than one entity where one member has the authority to conduct all businesses for and on behalf of any and all the members of the JV, and where the members of the JV are jointly and severally liable to the Client for the performance of the Contract.
- (r) "Key Expert(s)" means an individual professional whose skills, qualifications, knowledge and experience are critical to the performance of the Services under the Contract and whose Curricula Vitae (CV) was taken into account in the technical evaluation of the Consultant's proposal.
- (s) "Local Currency" means the currency of the Client's country.
- (t) "Non-Key Expert(s)" means an individual professional provided by the Consultant or its Sub-consultant to perform the Services or any part thereof under the Contract.
- (u) "Party" means the Client or the Consultant, as the case may be, and "Parties" means both of them.
- (v) "SCC" means the Special Conditions of Contract by which the GCC may be amended or supplemented but not over-written.
- (w) "Services" means the work to be performed by the Consultant pursuant to this Contract, as described in Appendix A hereto.
- (x) "Sexual Exploitation and Abuse" "(SEA)" means the following:

**Sexual Exploitation** is defined as any actual or attempted abuse of position of vulnerability, differential power or trust, for sexual purposes, including, but not limited to, profiting monetarily, socially or politically from the sexual exploitation







of another;

**Sexual Abuse** is defined as the actual or threatened physical intrusion of a sexual nature, whether by force or under unequal or coercive conditions.

- (y) **"Sexual Harassment" "(SH)"** is defined as unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature by the Experts with other Experts, Contractor's (if applicable) or Client's Personnel.
- (z) **"Site"** (if applicable) means the land and other places where works are to be executed and/or facilities to be installed, and such other land or places as may be specified in the Contractor's contract as forming part of the Site.
- (aa) **"Sub-consultants"** means an entity to whom/which the Consultant subcontracts any part of the Services while remaining solely liable for the execution of the Contract.
- (bb) **"Third Party"** means any person or entity other than the Government, the Client, the Consultant or a Sub-consultant.

## 2. Relationship between the Parties

2.1. Nothing contained herein shall be construed as establishing a relationship of master and servant or of principal and agent as between the Client and the Consultant. The Consultant, subject to this Contract, has complete charge of the Experts and Sub-consultants, if any, performing the Services and shall be fully responsible for the Services performed by them or on their behalf hereunder.

## 3. Law Governing Contract

3.1. This Contract, its meaning and interpretation, and the relation between the Parties shall be governed by the Applicable Law.

## 4. Language

4.1. This Contract has been executed in the language specified in the SCC, which shall be the binding and controlling language for all matters relating to the meaning or interpretation of this Contract.

## 5. Headings

5.1. The headings shall not limit, alter or affect the meaning of this Contract.

## 6. Communications

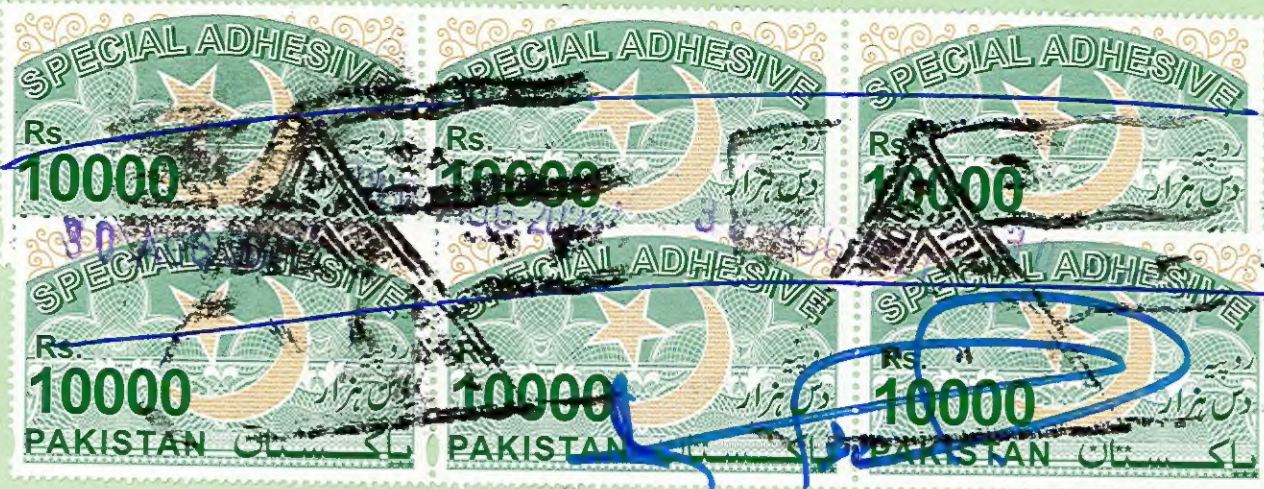
6.1. Any communication required or permitted to be given or made pursuant to this Contract shall be in writing in the language specified in Clause GCC 4. Any such notice, request or consent shall be deemed to have been given or made when delivered in person to an authorized representative of the Party to whom the communication is addressed, or when sent to such Party at the address specified in the SCC.

6.2. A Party may change its address for notice hereunder by giving the other Party any communication of such change to the address



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specified in the SCC.

7. Location

7.1. The Services shall be performed at such locations as are specified in Appendix A hereto and, where the location of a particular task is not so specified, at such locations, whether in the Government's country or elsewhere, as the Client may approve.

8. Authority of Member in Charge

8.1. In case the Consultant is a Joint Venture, the members hereby authorize the member specified in the SCC to act on their behalf in exercising all the Consultant's rights and obligations towards the Client under this Contract, including without limitation the receiving of instructions and payments from the Client.

9. Authorized Representatives

9.1. Any action required or permitted to be taken, and any document required or permitted to be executed under this Contract by the Client or the Consultant may be taken or executed by the officials specified in the SCC.

10. Fraud and Corruption

10.1. The Bank requires compliance with the Bank's Anti-Corruption Guidelines and its prevailing sanctions policies and procedures as set forth in the Bank's Sanctions Framework, as set forth in Attachment 1 to the GCC.

a. Commissions and Fees

10.2. The Client requires the Consultant to disclose any commissions or fees that may have been paid or are to be paid to agents or any other party with respect to the selection process or execution of the Contract. The information disclosed must include at least the name and address of the agent or other party, the amount and currency, and the purpose of the commission, gratuity or fee. Failure to disclose such commissions, gratuities or fees may result in termination of the Contract and/or sanctions by the Bank.

**B. COMMENCEMENT, COMPLETION, MODIFICATION AND TERMINATION OF CONTRACT**

11. Effectiveness of Contract

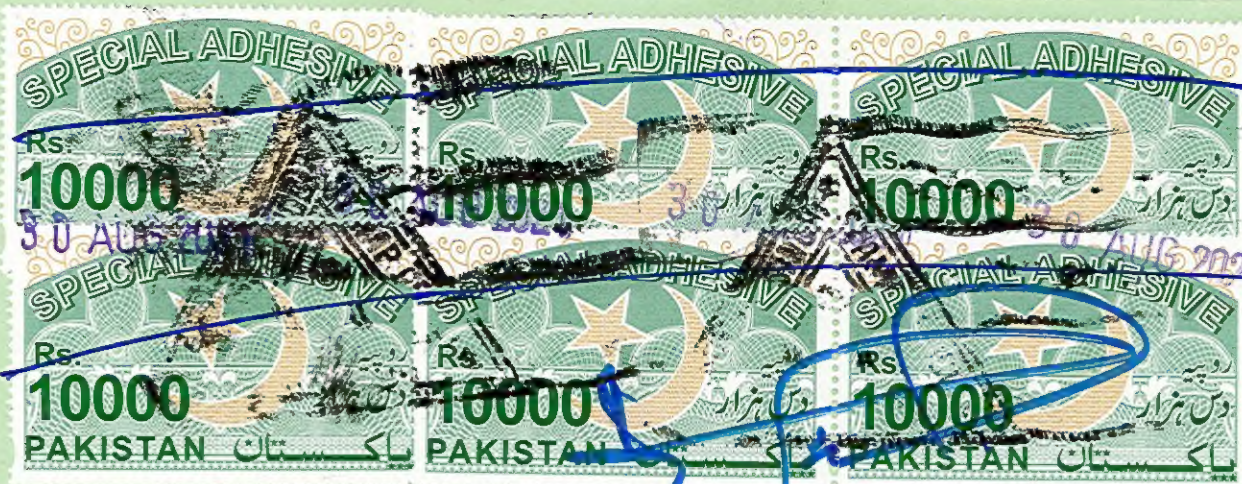
11.1. This Contract shall come into force and effect on the date (the "Effective Date") of the Client's notice to the Consultant instructing the Consultant to begin carrying out the Services. This notice shall confirm that the effectiveness conditions, if any, listed in the SCC have been met.

12. Termination of Contract for Failure to Become Effective

12.1. If this Contract has not become effective within such time period after the date of Contract signature as specified in the SCC, either Party may, by not less than twenty two (22) days written notice to the other Party, declare this Contract to be null and void, and in the event of such a declaration by either Party, neither Party shall have any claim against the other Party with respect hereto.



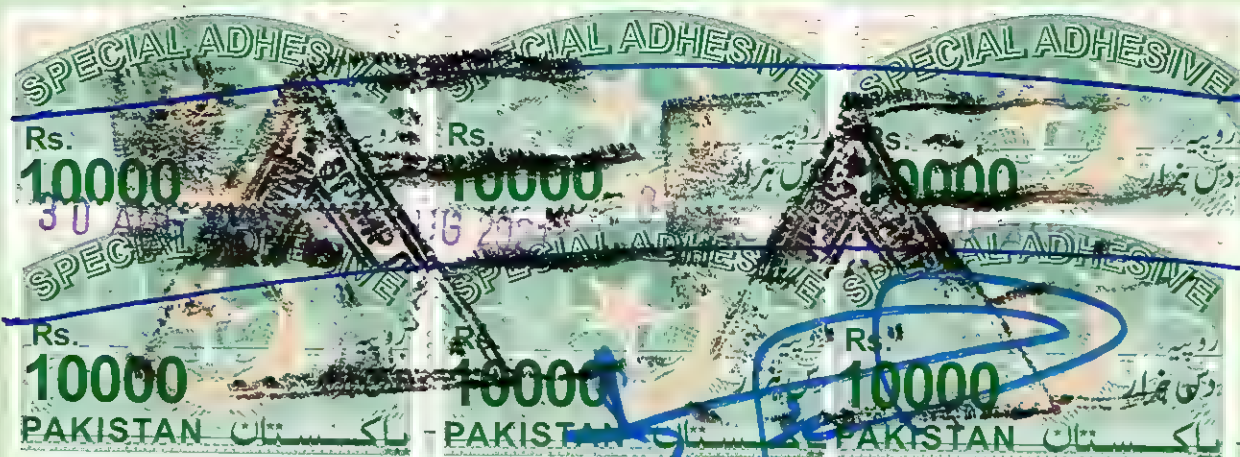




13. Commencement of Services
- 13.1. The Consultant shall confirm availability of Key Experts and begin carrying out the Services not later than the number of days after the Effective Date specified in the SCC.
14. Expiration of Contract
- 14.1. Unless terminated earlier pursuant to Clause GCC 19 hereof, this Contract shall expire at the end of such time period after the Effective Date as specified in the SCC.
15. Entire Agreement
- 15.1. This Contract contains all covenants, stipulations and provisions agreed by the Parties. No agent or representative of either Party has authority to make, and the Parties shall not be bound by or be liable for, any statement, representation, promise or agreement not set forth herein.
16. Modifications or Variations
- 16.1. Any modification or variation of the terms and conditions of this Contract, including any modification or variation of the scope of the Services, may only be made by written agreement between the Parties. However, each Party shall give due consideration to any proposals for modification or variation made by the other Party.
- 16.2. In cases of substantial modifications or variations, the prior written consent of the Bank is required.
17. Force Majeure
- a. Definition
- 17.1. For the purposes of this Contract, "Force Majeure" means an event which is beyond the reasonable control of a Party, is not foreseeable, is unavoidable, and makes a Party's performance of its obligations hereunder impossible or so impractical as reasonably to be considered impossible under the circumstances, and subject to those requirements, includes, but is not limited to, war, riots, civil disorder, earthquake, fire, explosion, storm, flood or other adverse weather conditions, strikes, lockouts or other industrial action confiscation or any other action by Government agencies.
- 17.2. Force Majeure shall not include (i) any event which is caused by the negligence or intentional action of a Party or such Party's Experts, Sub-consultants or agents or employees, nor (ii) any event which a diligent Party could reasonably have been expected to both take into account at the time of the conclusion of this Contract, and avoid or overcome in the carrying out of its obligations hereunder.
- 17.3. Force Majeure shall not include insufficiency of funds or failure to make any payment required hereunder.
- b. No Breach of
- 17.4. The failure of a Party to fulfill any of its obligations hereunder





**Contract**

shall not be considered to be a breach of, or default under, this Contract insofar as such inability arises from an event of Force Majeure, provided that the Party affected by such an event has taken all reasonable precautions, due care and reasonable alternative measures, all with the objective of carrying out the terms and conditions of this Contract.

**c. Measures to be Taken**

17.5. A Party affected by an event of Force Majeure shall continue to perform its obligations under the Contract as far as is reasonably practical, and shall take all reasonable measures to minimize the consequences of any event of Force Majeure.

17.6. A Party affected by an event of Force Majeure shall notify the other Party of such event as soon as possible, and in any case not later than fourteen (14) calendar days following the occurrence of such event, providing evidence of the nature and cause of such event, and shall similarly give written notice of the restoration of normal conditions as soon as possible.

17.7. Any period within which a Party shall, pursuant to this Contract, complete any action or task, shall be extended for a period equal to the time during which such Party was unable to perform such action as a result of Force Majeure.

17.8. During the period of their inability to perform the Services as a result of an event of Force Majeure, the Consultant, upon instructions by the Client, shall either:

- (a) demobilize, in which case the Consultant shall be reimbursed for additional costs they reasonably and necessarily incurred, and, if required by the Client, in reactivating the Services; or
- (b) continue with the Services to the extent reasonably possible, in which case the Consultant shall continue to be paid under the terms of this Contract and be reimbursed for additional costs reasonably and necessarily incurred.

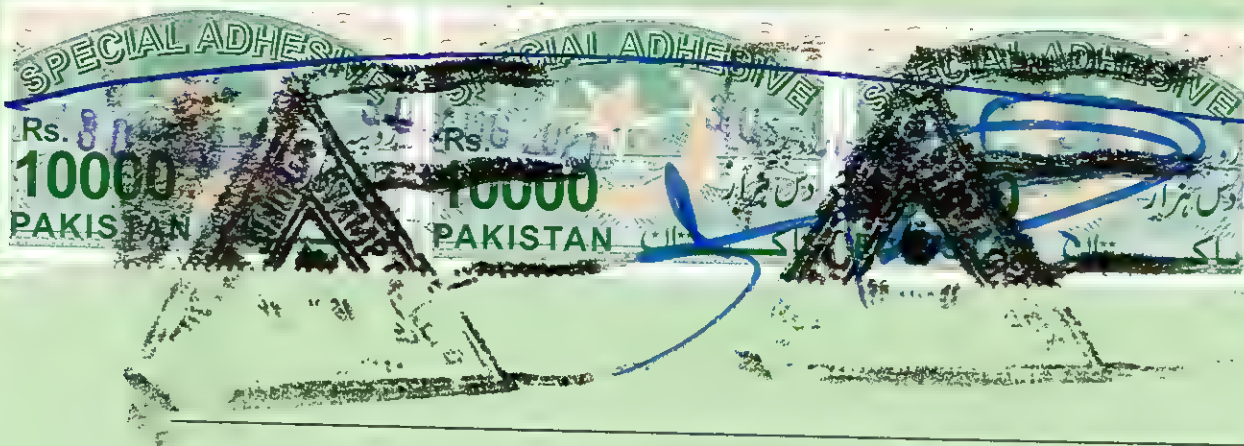
17.9. In the case of disagreement between the Parties as to the existence or extent of Force Majeure, the matter shall be settled according to Clauses GCC 49 & 50.

**18. Suspension**

18.1. The Client may, by written notice of suspension to the Consultant, suspend all payments to the Consultant hereunder if the Consultant fails to perform any of its obligations under this Contract, including the carrying out of the Services, provided that such notice of suspension (i) shall specify the nature of the failure, and (ii) shall request the Consultant to remedy such failure within a period not exceeding thirty (30) calendar days after receipt by the Consultant of such notice of suspension.





**19. Termination**

19.1. This Contract may be terminated by either Party as per provisions set up below:

**a. By the Client**

19.1.1 The Client may terminate this Contract in case of the occurrence of any of the events specified in paragraphs (a) through (f) of this Clause. In such an occurrence the Client shall give at least thirty (30) calendar days' written notice of termination to the Consultant in case of the events referred to in (a) through (d); at least sixty (60) calendar days' written notice in case of the event referred to in (e); and at least five (5) calendar days' written notice in case of the event referred to in (f):

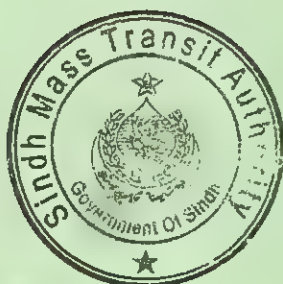
- (a) If the Consultant fails to remedy a failure in the performance of its obligations hereunder, as specified in a notice of suspension pursuant to Clause GCC 18;
- (b) If the Consultant becomes (or, if the Consultant consists of more than one entity, if any of its members becomes) insolvent or bankrupt or enter into any agreements with their creditors for relief of debt or take advantage of any law for the benefit of debtors or go into liquidation or receivership whether compulsory or voluntary;
- (c) If the Consultant fails to comply with any final decision reached as a result of arbitration proceedings pursuant to Clause GCC 50.1;
- (d) If, as the result of Force Majeure, the Consultant is unable to perform a material portion of the Services for a period of not less than sixty (60) calendar days;
- (e) If the Client, in its sole discretion and for any reason whatsoever, decides to terminate this Contract;
- (f) If the Consultant fails to confirm availability of Key Experts as required in Clause GCC 13.

19.1.2 If the Consultant, in the judgment of the Client has engaged in Fraud and Corruption, as defined in paragraph 2.2 a of Attachment 1 to the GCC, in competing for or in executing the Contract, then the Client may, after giving fourteen (14) calendar days written notice to the Consultant, terminate the Consultant's employment under the Contract.

**b. By the Consultant**

19.1.3 The Consultant may terminate this Contract, by not less than thirty (30) calendar days' written notice to the Client, in case of the occurrence of any of the events specified in paragraphs (a) through (d) of this Clause.

- (a) If the Client fails to pay any money due to the







Consultant pursuant to this Contract and not subject to dispute pursuant to Clauses GCC 50.1 within forty-five (45) calendar days after receiving written notice from the Consultant that such payment is overdue.

- (b) If, as the result of Force Majeure, the Consultant is unable to perform a material portion of the Services for a period of not less than sixty (60) calendar days.
- (c) If the Client fails to comply with any final decision reached as a result of arbitration pursuant to Clause GCC 50.1.
- (d) If the Client is in material breach of its obligations pursuant to this Contract and has not remedied the same within forty-five (45) days (or such longer period as the Consultant may have subsequently approved in writing) following the receipt by the Client of the Consultant's notice specifying such breach.

**c. Cessation of Rights and Obligations**

19.1.4 Upon termination of this Contract pursuant to Clauses GCC 12 or GCC 19 hereof, or upon expiration of this Contract pursuant to Clause GCC 14, all rights and obligations of the Parties hereunder shall cease, except (i) such rights and obligations as may have accrued on the date of termination or expiration, (ii) the obligation of confidentiality set forth in Clause GCC 22, (iii) the Consultant's obligation to permit inspection, copying and auditing of their accounts and records set forth in Clause GCC 25 and to cooperate and assist in any inspection or investigation, and (iv) any right which a Party may have under the Applicable Law.

**d. Cessation of Services**

19.1.5 Upon termination of this Contract by notice of either Party to the other pursuant to Clauses GCC 19a or GCC 19b, the Consultant shall, immediately upon dispatch or receipt of such notice, take all necessary steps to bring the Services to a close in a prompt and orderly manner and shall make every reasonable effort to keep expenditures for this purpose to a minimum. With respect to documents prepared by the Consultant and equipment and materials furnished by the Client, the Consultant shall proceed as provided, respectively, by Clauses GCC 27 or GCC 28.

**e. Payment upon Termination**

19.1.6 Upon termination of this Contract, the Client shall make the following payments to the Consultant:

- (a) remuneration for Services satisfactorily performed prior to the effective date of termination, and reimbursable expenditures for expenditures actually incurred prior to







the effective date of termination; and pursuant to Clause GCC 43;

- (b) in the case of termination pursuant to paragraphs (d) and (e) of Clause GCC 19.1.1, reimbursement of any reasonable cost incidental to the prompt and orderly termination of this Contract, including the cost of the return travel of the Experts.

### C. OBLIGATIONS OF THE CONSULTANT

#### 20. General

**a. Standard of Performance**

20.1. The Consultant shall perform the Services and carry out the Services with all due diligence, efficiency and economy, in accordance with generally accepted professional standards and practices, and shall observe sound management practices, and employ appropriate technology and safe and effective equipment, machinery, materials and methods. The Consultant shall always act, in respect of any matter relating to this Contract or to the Services, as a faithful adviser to the Client, and shall at all times support and safeguard the Client's legitimate interests in any dealings with the third parties.

20.2. The Consultant shall employ and provide such qualified and experienced Experts and Sub-consultants as are required to carry out the Services.

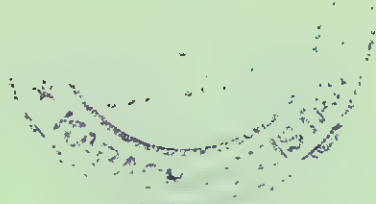
20.3. The Consultant may subcontract part of the Services to an extent and with such Key Experts and Sub-consultants as may be approved in advance by the Client. Notwithstanding such approval, the Consultant shall retain full responsibility for the Services.

**b. Law Applicable to Services**

20.4. The Consultant shall perform the Services in accordance with the Contract and the Applicable Law and shall take all practicable steps to ensure that any of its Experts and Sub-consultants, comply with the Applicable Law.

20.5. Throughout the execution of the Contract, the Consultant shall comply with the import of goods and services prohibitions in the Client's country when

- (a) as a matter of law or official regulations, the Borrower's country prohibits commercial relations with that country; or
- (b) by an act of compliance with a decision of the United Nations Security Council taken under Chapter VII of







the Charter of the United Nations, the Borrower's Country prohibits any import of goods from that country or any payments to any country, person, or entity in that country.

20.6. The Client shall notify the Consultant in writing of relevant local customs, and the Consultant shall, after such notification, respect such customs.

**21. Conflict of Interest**

21.1. The Consultant shall hold the Client's interests paramount, without any consideration for future work, and strictly avoid conflict with other assignments or their own corporate interests.

**a. Consultant  
Not to Benefit  
from  
Commissions,  
Discounts, etc.**

21.1.1 The payment of the Consultant pursuant to GCC F (Clauses GCC 42 through 47) shall constitute the Consultant's only payment in connection with this Contract and, subject to Clause GCC 21.1.3, the Consultant shall not accept for its own benefit any trade commission, discount or similar payment in connection with activities pursuant to this Contract or in the discharge of its obligations hereunder, and the Consultant shall use its best efforts to ensure that any Sub-consultants, as well as the Experts and agents of either of them, similarly shall not receive any such additional payment.

21.1.2 Furthermore, if the Consultant, as part of the Services, has the responsibility of advising the Client on the procurement of goods, works or services, the Consultant shall comply with the Bank's Applicable Regulations, and shall at all times exercise such responsibility in the best interest of the Client. Any discounts or commissions obtained by the Consultant in the exercise of such procurement responsibility shall be for the account of the Client.

**b. Consultant  
and Affiliates  
Not to Engage  
in Certain  
Activities**

21.1.3 The Consultant agrees that, during the term of this Contract and after its termination, the Consultant and any entity affiliated with the Consultant, as well as any Sub-consultants and any entity affiliated with such Sub-consultants, shall be disqualified from providing goods, works or non-consulting services resulting from or directly related to the Consultant's Services for the preparation or implementation of the project.

**c. Prohibition of  
Conflicting  
Activities**

21.1.4 The Consultant shall not engage, and shall cause its Experts as well as its Sub-consultants not to engage, either directly or indirectly, in any business or professional activities that would conflict with the activities assigned to them under this Contract.







- d. **Strict Duty to Disclose Conflicting Activities**
- 21.1.5 The Consultant has an obligation and shall ensure that its Experts and Sub-consultants shall have an obligation to disclose any situation of actual or potential conflict that impacts their capacity to serve the best interest of their Client, or that may reasonably be perceived as having this effect. Failure to disclose said situations may lead to the disqualification of the Consultant or the termination of its Contract.
22. Confidentiality
- 22.1. Except with the prior written consent of the Client, the Consultant and the Experts shall not at any time communicate to any person or entity any confidential information acquired in the course of the Services, nor shall the Consultant and the Experts make public the recommendations formulated in the course of, or as a result of, the Services.
23. Liability of the Consultant
- 23.1. Subject to additional provisions, if any, set forth in the SCC, the Consultant's liability under this Contract shall be as determined under the Applicable Law.
24. Insurance to be taken out by the Consultant
- 24.1. The Consultant (i) shall take out and maintain, and shall cause any Sub-consultants to take out and maintain, at its (or the Sub-consultants', as the case may be) own cost but on terms and conditions approved by the Client, insurance against the risks, and for the coverage specified in the SCC, and (ii) at the Client's request, shall provide evidence to the Client showing that such insurance has been taken out and maintained and that the current premiums therefore have been paid. The Consultant shall ensure that such insurance is in place prior to commencing the Services as stated in Clause GCC 13.
25. Accounting, Inspection and Auditing
- 25.1. The Consultant shall keep, and shall make all reasonable efforts to cause its Sub-consultants to keep, accurate and systematic accounts and records in respect of the Services in such form and detail as will clearly identify relevant time changes and costs.
- 25.2. Pursuant to paragraph 2.2 e. of Attachment 1 to the General Conditions, the Consultant shall permit and shall cause its agents (where declared or not), subcontractors, subconsultants, service providers, suppliers, and personnel, to permit, the Bank and/or persons appointed by the Bank to inspect the site and/or the accounts, records and other documents relating to the procurement process, selection and/or contract execution, and to have such accounts, records and other documents audited by auditors appointed by the Bank. The Consultant's and its Subcontractors' and subconsultants' attention is drawn to Sub-







Clause 10.1 (Fraud and Corruption) which provides, inter alia, that acts intended to materially impede the exercise of the Bank's inspection and audit rights constitute a prohibited practice subject to contract termination (as well as to a determination of ineligibility pursuant to the Bank's prevailing sanctions procedures).

26. Reporting  
Obligations

26.1. The Consultant shall submit to the Client the reports and documents specified in **Appendix A**, in the form, in the numbers and within the time periods set forth in the said Appendix.

27. Proprietary Rights  
of the Client in Reports  
and Records

27.1. Unless otherwise indicated in the **SCC**, all reports and relevant data and information such as maps, diagrams, plans, databases, other documents and software, supporting records or material compiled or prepared by the Consultant for the Client in the course of the Services shall be confidential and become and remain the absolute property of the Client. The Consultant shall, not later than upon termination or expiration of this Contract, deliver all such documents to the Client, together with a detailed inventory thereof. The Consultant may retain a copy of such documents, data and/or software but shall not use the same for purposes unrelated to this Contract without prior written approval of the Client.

27.2. If license agreements are necessary or appropriate between the Consultant and third parties for purposes of development of the plans, drawings, specifications, designs, databases, other documents and software, the Consultant shall obtain the Client's prior written approval to such agreements, and the Client shall be entitled at its discretion to require recovering the expenses related to the development of the program(s) concerned. Other restrictions about the future use of these documents and software, if any, shall be specified in the **SCC**.

28. Equipment, Vehicles  
and Materials

28.1. Equipment, vehicles and materials made available to the Consultant by the Client, or purchased by the Consultant wholly or partly with funds provided by the Client, shall be the property of the Client and shall be marked accordingly. Upon termination or expiration of this Contract, the Consultant shall make available to the Client an inventory of such equipment, vehicles and materials and shall dispose of such equipment, vehicles and materials in accordance with the Client's instructions. While in possession of such equipment, vehicles and materials, the Consultant, unless otherwise instructed by the Client in writing, shall insure them at the expense of the Client in an amount equal to their full replacement value.







28.2. Any equipment or materials brought by the Consultant or its Experts into the Client's country for the use either for the project or personal use shall remain the property of the Consultant or the Experts concerned, as applicable.

29. Code of Conduct

29.1. If specified in the SCC, the Consultant shall have a Code of Conduct for Experts (ES).

The Consultant shall take all necessary measures to ensure that each Expert is made aware of the Code of Conduct including specific behaviors that are prohibited, and understands the consequences of engaging in such prohibited behaviors.

These measures include providing instructions and documentation that can be understood by the Experts and seeking to obtain that person's signature acknowledging receipt of such instructions and/or documentation, as appropriate.

The Consultant shall also ensure that the Code of Conduct is visibly displayed in locations where the Services are provided, including if applicable, on the Site, as well as in areas outside the Site accessible to the local community and project affected people. The posted Code of Conduct shall be provided in languages comprehensible to Experts, Contractor's Personnel, Client's Personnel and the local community if applicable.

**D. CONSULTANT'S EXPERTS AND SUB-CONSULTANTS**

30. Description of Key Experts

30.1. The title, agreed job description, minimum qualification and time-input estimates to carry out the Services of each of the Consultant's Key Experts are described in **Appendix B**.

30.2. If required to comply with the provisions of Clause GCC 20a, adjustments with respect to the estimated time-input of Key Experts set forth in **Appendix B** may be made by the Consultant by a written notice to the Client, provided (i) that such adjustments shall not alter the original time-input estimates for any individual by more than 10% or one week, whichever is larger; and (ii) that the aggregate of such adjustments shall not cause payments under this Contract to exceed the ceilings set forth in Clause GCC 42.2.

30.3. If additional work is required beyond the scope of the Services specified in **Appendix A**, the estimated time-input for the Key Experts may be increased by agreement in writing between the Client and the Consultant. In case where payments under this Contract exceed the ceilings set forth in Clause GCC 42.2, the Parties shall sign a Contract amendment.







### 31. Replacement of Key Experts

31.1. Except as the Client may otherwise agree in writing, no changes shall be made in the Key Experts.

31.2. Notwithstanding the above, the substitution of Key Experts during Contract execution may be considered only based on the Consultant's written request and due to circumstances outside the reasonable control of the Consultant, including but not limited to death or medical incapacity. In such case, the Consultant shall forthwith provide as a replacement, a person of equivalent or better qualifications and experience, meet eligibility requirements, and at the same rate of remuneration.

### 32. Approval of Additional Key Experts

32.1. If during execution of the Contract, additional Key Experts are required to carry out the Services, the Consultant shall submit to the Client for review and approval a copy of their Curricula Vitae (CVs). If the Client does not object in writing (stating the reasons for the objection) within twenty two (22) days from the date of receipt of such CVs, such additional Key Experts shall be deemed to have been approved by the Client.

The rate of remuneration payable to such new additional Key Experts shall be based on the rates for other Key Experts position which require similar qualifications and experience.

### 33. Removal of Experts or Sub-consultants

33.1. If the Client finds that any of the Experts or Sub-consultant misconduct or has been charged with having committed a criminal action, or if the Client determines that a Consultant's Expert or Sub-consultant has engaged in Fraud and Corruption while performing the Services, the Consultant shall, at the Client's written request, provide a replacement.

33.2. In the event that any of Key Experts, Non-Key Experts or Sub-consultants is found by the Client to be incompetent or incapable in discharging assigned duties, the Client, specifying the grounds therefore, may request the Consultant to provide a replacement.

33.3. Any replacement of the removed Experts or Sub-consultants shall possess better qualifications and experience and shall be acceptable to the Client.

### 34. Replacement/ Removal of Experts – Impact on Payments

34.1. Except as the Client may otherwise agree, (i) the Consultant shall bear all additional travel and other costs arising out of or incidental to any removal and/or replacement, and (ii) the remuneration to be paid for any of the Experts provided as a replacement shall not exceed the remuneration which would have been payable to the Experts replaced or removed.

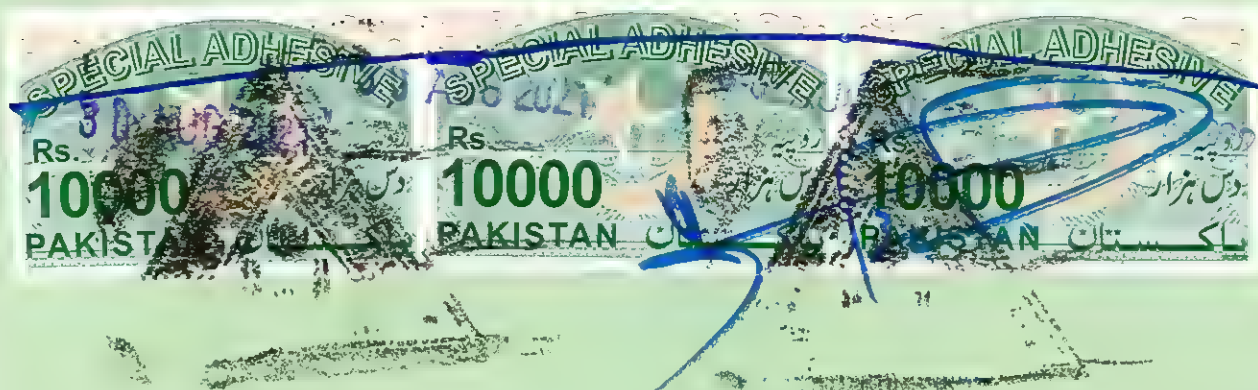
### 35. Working Hours,

35.1. Working hours and holidays for Experts are set forth in



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Overtime, Leave, etc.

**Appendix B.** To account for travel time to/from the Client's country, experts carrying out Services inside the Client's country shall be deemed to have commenced or finished work in respect of the Services such number of days before their arrival in, or after their departure from, the Client's country as is specified in **Appendix B**.

35.2. The Experts shall not be entitled to be paid for overtime nor to take paid sick leave or vacation leave except as specified in **Appendix B**, and the Consultant's remuneration shall be deemed to cover these items.

35.3. Any taking of leave by Key Experts shall be subject to the prior approval by the Consultant who shall ensure that absence for leave purposes will not delay the progress and or impact adequate supervision of the Services.

#### **E. OBLIGATIONS OF THE CLIENT**

36. Assistance and Exemptions

36.1. Unless otherwise specified in the SCC, the Client shall use its best efforts to:

- (a) Assist the Consultant with obtaining work permits and such other documents as shall be necessary to enable the Consultant to perform the Services.
- (b) Assist the Consultant with promptly obtaining, for the Experts and, if appropriate, their eligible dependents, all necessary entry and exit visas, residence permits, exchange permits and any other documents required for their stay in the Client's country while carrying out the Services under the Contract.
- (c) Facilitate prompt clearance through customs of any property required for the Services and of the personal effects of the Experts and their eligible dependents.
- (d) Issue to officials, agents and representatives of the Government all such instructions and information as may be necessary or appropriate for the prompt and effective implementation of the Services.
- (e) Assist the Consultant and the Experts and any Sub-consultants employed by the Consultant for the Services with obtaining exemption from any requirement to register or obtain any permit to practice their profession or to establish themselves either individually or as a corporate entity in the Client's country according to the applicable law in the Client's country.







- (f) Assist the Consultant, any Sub-consultants and the Experts of either of them with obtaining the privilege, pursuant to the applicable law in the Client's country, of bringing into the Client's country reasonable amounts of foreign currency for the purposes of the Services or for the personal use of the Experts and of withdrawing any such amounts as may be earned therein by the Experts in the execution of the Services.
- (g) Provide to the Consultant any such other assistance as may be specified in the SCC.

37. Access to Project Site

37.1. The Client warrants that the Consultant shall have, free of charge, unimpeded access to the project site in respect of which access is required for the performance of the Services. The Client will be responsible for any damage to the project site or any property thereon resulting from such access and will indemnify the Consultant and each of the experts in respect of liability for any such damage, unless such damage is caused by the willful default or negligence of the Consultant or any Sub-consultants or the Experts of either of them.

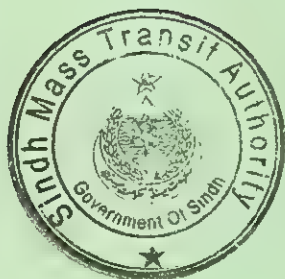
38. Change in the Applicable Law Related to Taxes and Duties

38.1. If, after the date of this Contract, there is any change in the applicable law in the Client's country with respect to taxes and duties which increases or decreases the cost incurred by the Consultant in performing the Services, then the remuneration and reimbursable expenses otherwise payable to the Consultant under this Contract shall be increased or decreased accordingly by agreement between the Parties hereto, and corresponding adjustments shall be made to the ceiling amounts specified in Clause GCC 42.2.

39. Services, Facilities and Property of the Client

39.1. The Client shall make available to the Consultant and the Experts, for the purposes of the Services and free of any charge, the services, facilities and property described in the Terms of Reference (Appendix A) at the times and in the manner specified in said Appendix A.

39.2. In case that such services, facilities and property shall not be made available to the Consultant as and when specified in Appendix A, the Parties shall agree on (i) any time extension that it may be appropriate to grant to the Consultant for the performance of the Services, (ii) the manner in which the Consultant shall procure any such services, facilities and property from other sources, and (iii) the additional payments, if any, to be made to the Consultant as a result thereof pursuant to Clause GCC 42.3.







#### 40. Counterpart Personnel

40.1. The Client shall make available to the Consultant free of charge such professional and support counterpart personnel, to be nominated by the Client with the Consultant's advice, if specified in **Appendix A**.

40.2. If counterpart personnel are not provided by the Client to the Consultant as and when specified in **Appendix A**, the Client and the Consultant shall agree on (i) how the affected part of the Services shall be carried out, and (ii) the additional payments, if any, to be made by the Client to the Consultant as a result thereof pursuant to Clause GCC 42.3.

40.3. Professional and support counterpart personnel, excluding Client's liaison personnel, shall work under the exclusive direction of the Consultant. If any member of the counterpart personnel fails to perform adequately any work assigned to such member by the Consultant that is consistent with the position occupied by such member, the Consultant may request the replacement of such member, and the Client shall not unreasonably refuse to act upon such request.

#### 41. Payment Obligation

41.1. In consideration of the Services performed by the Consultant under this Contract, the Client shall make such payments to the Consultant and in such manner as is provided by GCC F below.

### F. PAYMENTS TO THE CONSULTANT

#### 42. Ceiling Amount

42.1. An estimate of the cost of the Services is set forth in **Appendix C** (Remuneration) and **Appendix D** (Reimbursable expenses).

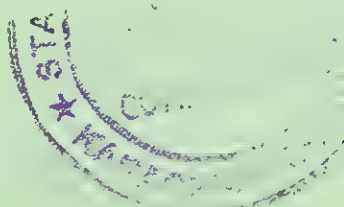
42.2. Payments under this Contract shall not exceed the ceilings in foreign currency and in local currency specified in the SCC.

42.3. For any payments in excess of the ceilings specified in GCC 42.2, an amendment to the Contract shall be signed by the Parties referring to the provision of this Contract that evokes such amendment.

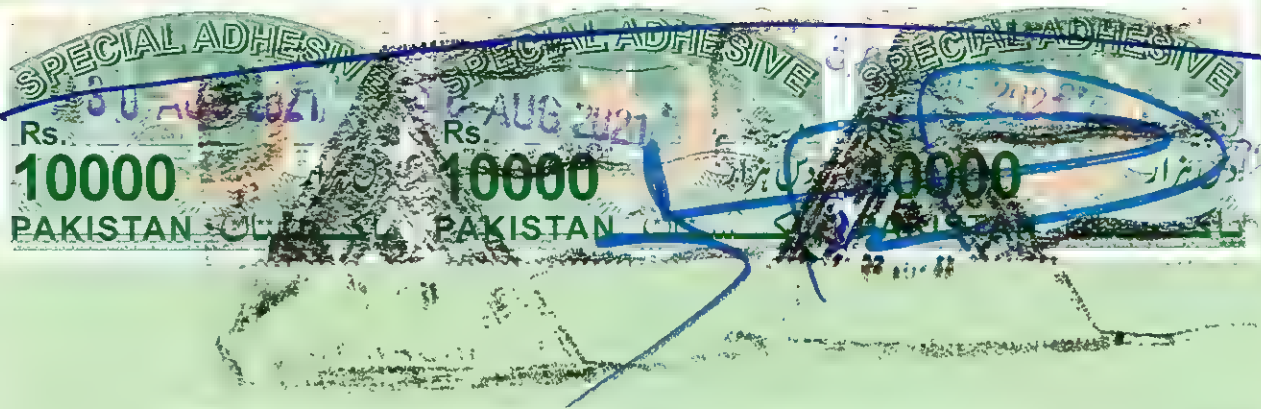
#### 43. Remuneration and Reimbursable Expenses

43.1. The Client shall pay to the Consultant (i) remuneration that shall be determined on the basis of time actually spent by each Expert in the performance of the Services after the date of commencing of Services or such other date as the Parties shall agree in writing; and (ii) reimbursable expenses that are actually and reasonably incurred by the Consultant in the performance of the Services.

43.2. All payments shall be at the rates set forth in **Appendix C** and **Appendix D**.







43.3. Unless the SCC provides for the price adjustment of the remuneration rates, said remuneration shall be fixed for the duration of the Contract.

43.4. The remuneration rates shall cover: (i) such salaries and allowances as the Consultant shall have agreed to pay to the Experts as well as factors for social charges and overheads (bonuses or other means of profit-sharing shall not be allowed as an element of overheads), (ii) the cost of backstopping by home office staff not included in the Experts' list in **Appendix B**, (iii) the Consultant's profit, and (iv) any other items as specified in the SCC.

43.5. Any rates specified for Experts not yet appointed shall be provisional and shall be subject to revision, with the written approval of the Client, once the applicable remuneration rates and allowances are known.

#### 44. Taxes and Duties

44.1. The Consultant, Sub-consultants and Experts are responsible for meeting any and all tax liabilities arising out of the Contract unless it is stated otherwise in the SCC.

44.2. As an exception to the above and as stated in the SCC, all local identifiable indirect taxes (itemized and finalized at Contract negotiations) are reimbursed to the Consultant or are paid by the Client on behalf of the Consultant.

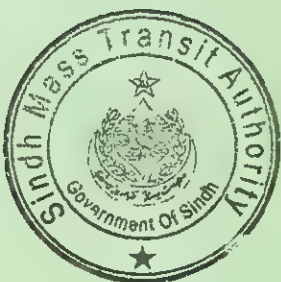
#### 45. Currency of Payment

45.1. Any payment under this Contract shall be made in the currency(ies) specified in the SCC.

#### 46. Mode of Billing and Payment

46.1. Billings and payments in respect of the Services shall be made as follows:

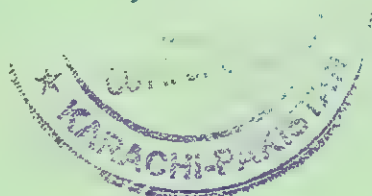
- (a) Advance payment. Within the number of days after the Effective Date, the Client shall pay to the Consultant an advance payment as specified in the SCC. Unless otherwise indicated in the SCC, an advance payment shall be made against an advance payment bank guarantee acceptable to the Client in an amount (or amounts) and in a currency (or currencies) specified in the SCC. Such guarantee (i) is to remain effective until the advance payment has been fully set off, and (ii) is to be in the form set forth in **Appendix E**, or in such other form as the Client shall have approved in writing. The advance payments will be set off by the Client in equal installments against the statements for the number of months of the Services specified in the SCC until said advance payments have been fully set off.







- (b) The Itemized Invoices. As soon as practicable and not later than fifteen (15) days after the end of each calendar month during the period of the Services, or after the end of each time interval otherwise indicated in the SCC, the Consultant shall submit to the Client, in duplicate, itemized invoices, accompanied by the receipts or other appropriate supporting documents, of the amounts payable pursuant to Clauses GCC 45 and GCC 46 for such interval, or any other period indicated in the SCC. Separate invoices shall be submitted for expenses incurred in foreign currency and in local currency. Each invoice shall show remuneration and reimbursable expenses separately.
- (c) The Client shall pay the Consultant's invoices within sixty (60) days after the receipt by the Client of such itemized invoices with supporting documents. Only such portion of an invoice that is not satisfactorily supported may be withheld from payment. Should any discrepancy be found to exist between actual payment and costs authorized to be incurred by the Consultant, the Client may add or subtract the difference from any subsequent payments.
- (d) The Final Payment. The final payment under this Clause shall be made only after the final report and a final invoice, identified as such, shall have been submitted by the Consultant and approved as satisfactory by the Client. The Services shall be deemed completed and finally accepted by the Client and the final report and final invoice shall be deemed approved by the Client as satisfactory ninety (90) calendar days after receipt of the final report and final invoice by the Client unless the Client, within such ninety (90) calendar day period, gives written notice to the Consultant specifying in detail deficiencies in the Services, the final report or final invoice. The Consultant shall thereupon promptly make any necessary corrections, and thereafter the foregoing process shall be repeated. Any amount that the Client has paid or has caused to be paid in accordance with this Clause in excess of the amounts payable in accordance with the provisions of this Contract shall be reimbursed by the Consultant to the Client within thirty (30) days after receipt by the Consultant of notice thereof. Any such claim by the Client for reimbursement must be made within twelve (12) calendar months after receipt by the Client of a final report and a final invoice approved by the Client in accordance with the above.







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- (e) All payments under this Contract shall be made to the accounts of the Consultant specified in the SCC.
- (f) With the exception of the final payment under (d) above, payments do not constitute acceptance of the Services nor relieve the Consultant of any obligations hereunder.

**47. Interest on Delayed Payments**

47.1. If the Client had delayed payments beyond fifteen (15) days after the due date stated in Clause GCC 46.1 (c), interest shall be paid to the Consultant on any amount due by, not paid on, such due date for each day of delay at the annual rate stated in the SCC.

**G. FAIRNESS AND GOOD FAITH**

**48. Good Faith**

48.1. The Parties undertake to act in good faith with respect to each other's rights under this Contract and to adopt all reasonable measures to ensure the realization of the objectives of this Contract.

**H. SETTLEMENT OF DISPUTES**

**49. Amicable Settlement**

49.1. The Parties shall seek to resolve any dispute amicably by mutual consultation.

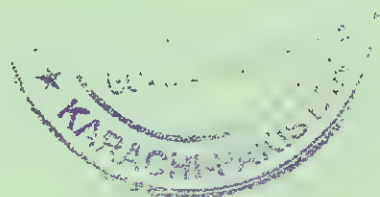
49.2. If either Party objects to any action or inaction of the other Party, the objecting Party may file a written Notice of Dispute to the other Party providing in detail the basis of the dispute. The Party receiving the Notice of Dispute will consider it and respond in writing within fourteen (14) days after receipt. If that Party fails to respond within fourteen (14) days, or the dispute cannot be amicably settled within fourteen (14) days following the response of that Party, Clause GCC 50.1 shall apply.

**50. Dispute Resolution**

50.1. Any dispute between the Parties arising under or related to this Contract that cannot be settled amicably may be referred to by either Party to the adjudication/arbitration in accordance with the provisions specified in the SCC.



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## II. General Conditions Attachment 1

### Fraud and Corruption

*(Text in this Attachment shall not be modified)*

#### 1. Purpose

- 1.1 The Bank's Anti-Corruption Guidelines and this annex apply with respect to procurement under Bank Investment Project Financing operations.

#### 2. Requirements

- 2.1 The Bank requires that Borrowers (including beneficiaries of Bank financing); bidders (applicants/proposers), consultants, contractors and suppliers; any sub-contractors, sub-consultants, service providers or suppliers; any agents (whether declared or not); and any of their personnel, observe the highest standard of ethics during the procurement process, selection and contract execution of Bank-financed contracts, and refrain from Fraud and Corruption.

2.2 To this end, the Bank:

- a. Defines, for the purposes of this provision, the terms set forth below as follows:

- i. "corrupt practice" is the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence improperly the actions of another party;
- ii. "fraudulent practice" is any act or omission, including misrepresentation, that knowingly or recklessly misleads, or attempts to mislead, a party to obtain financial or other benefit or to avoid an obligation;
- iii. "collusive practice" is an arrangement between two or more parties designed to achieve an improper purpose, including to influence improperly the actions of another party;
- iv. "coercive practice" is impairing or harming, or threatening to impair or harm, directly or indirectly, any party or the property of the party to influence improperly the actions of a party;
- v. "obstructive practice" is:
  - (a) deliberately destroying, falsifying, altering, or concealing of evidence material to the investigation or making false statements to investigators in order to materially impede a Bank investigation into allegations of a corrupt, fraudulent, coercive, or collusive practice; and/or threatening, harassing, or intimidating any party to prevent it from disclosing its knowledge of matters relevant to the investigation or from pursuing the investigation; or
  - (b) acts intended to materially impede the exercise of the Bank's inspection and audit rights provided for under paragraph 2.2 e. below.







- b. Rejects a proposal for award if the Bank determines that the firm or individual recommended for award, any of its personnel, or its agents, or its sub-consultants, sub-contractors, service providers, suppliers and/ or their employees, has, directly or indirectly, engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices in competing for the contract in question;
- c. In addition to the legal remedies set out in the relevant Legal Agreement, may take other appropriate actions, including declaring mis-procurement, if the Bank determines at any time that representatives of the Borrower or of a recipient of any part of the proceeds of the loan engaged in corrupt, fraudulent, collusive, coercive, or obstructive practices during the procurement process, selection and/or execution of the contract in question, without the Borrower having taken timely and appropriate action satisfactory to the Bank to address such practices when they occur, including by failing to inform the Bank in a timely manner at the time they knew of the practices;
- d. Pursuant to the Bank's Anti- Corruption Guidelines and in accordance with the Bank's prevailing sanctions policies and procedures, may sanction a firm or individual, either indefinitely or for a stated period of time, including by publicly declaring such firm or individual ineligible (i) to be awarded or otherwise benefit from a Bank-financed contract, financially or in any other manner;<sup>1</sup> (ii) to be a nominated<sup>2</sup> sub-contractor, consultant, manufacturer or supplier, or service provider of an otherwise eligible firm being awarded a Bank-financed contract; and (iii) to receive the proceeds of any loan made by the Bank or otherwise to participate further in the preparation or implementation of any Bank-financed project;
- e. Requires that a clause be included in bidding/request for proposals documents and in contracts financed by a Bank loan, requiring (i) bidders (applicants/proposers), consultants, contractors, and suppliers, and their sub-contractors, sub-consultants, service providers, suppliers, agents personnel, permit the Bank to inspect<sup>3</sup> all accounts, records and other documents relating to the procurement process, selection and/or contract execution,, and to have them audited by auditors appointed by the Bank.

<sup>1</sup> For the avoidance of doubt, a sanctioned party's ineligibility to be awarded a contract shall include, without limitation, (i) applying for pre-qualification, expressing interest in a consultancy, and bidding, either directly or as a nominated sub-contractor, nominated consultant, nominated manufacturer or supplier, or nominated service provider, in respect of such contract, and (ii) entering into an addendum or amendment introducing a material modification to any existing contract.

<sup>2</sup> A nominated sub-contractor, nominated consultant, nominated manufacturer or supplier, or nominated service provider (different names are used depending on the particular bidding document) is one which has been: (i) included by the bidder in its pre-qualification application or bid because it brings specific and critical experience and know-how that allow the bidder to meet the qualification requirements for the particular bid; or (ii) appointed by the Borrower.

<sup>3</sup> Inspections in this context usually are investigative (i.e., forensic) in nature. They involve fact-finding activities undertaken by the Bank or persons appointed by the Bank to address specific matters related to investigations/audits, such as evaluating the veracity of an allegation of possible Fraud and Corruption, through the appropriate mechanisms. Such activity includes but is not limited to: accessing and examining a firm's or individual's financial records and information, and making copies thereof as relevant; accessing and examining any other documents, data and information (whether in hard copy or electronic format) deemed relevant for the investigation/audit, and making copies thereof as relevant; interviewing staff and other relevant individuals; performing physical inspections and site visits; and obtaining third party verification of information.



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### III. Special Conditions of Contract (Phase 2)

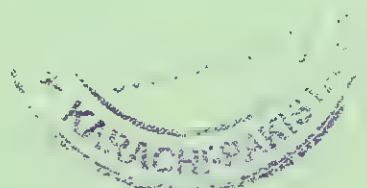
Number of GC Clause	Amendments of, and Supplements to, Clauses in the General Conditions of Contract
1.1(a)	The Contract shall be construed in accordance with the law of the Islamic Republic of Pakistan.
4.1	The language is: English
6.1 and 6.2	<p><b>The addresses are:</b></p> <p>Client : Sindh Mass Transit Authority Transport &amp; Mass Transit Department, Government of Sindh Attention: Project Director (Karachi Mobility Project) E-mail: <a href="mailto:kmp.infra.smta@gmail.com">kmp.infra.smta@gmail.com</a> <a href="mailto:pd.kmp.ylc@gmail.com">pd.kmp.ylc@gmail.com</a></p> <p>Consultant : M/s Dar-al-Handasah Consultants (Shair &amp; Partners) in JV M/s National Engineering Services Pakistan (Pvt.) Ltd.</p> <p>Attention : Mr. Bassam Shakhshir, Director of Operations Facsimile : +97317533583 E-mail (where permitted) : <a href="mailto:manama@dar.com">manama@dar.com</a></p> <p>Address: Wind Tower, Office 81, Building 403, Road 1705, Manama 317, P.O.Box: 5491, Kingdom of Bahrain.</p>
8.1	<b>The Lead Member on behalf of the JV is M/s Dar-al-Handasah Consultants (Shair &amp; Partners).</b>
9.1	<p><b>The Authorized Representatives are:</b></p> <p><b>For the Client:</b> Project Director (Karachi Mobility Project)</p> <p><b>For the Consultant:</b> Mr. Bassam Shakhshir, Director of Operations</p>
11.1	<p><b>The effectiveness conditions are the following:</b></p> <p>Signature of the contract by both parties and confirmation of key experts.</p>
12.1	<p><b>Termination of Contract for Failure to Become Effective:</b></p> <p>The time period shall be six (06) months.</p>
13.1	<b>Commencement of Services:</b>







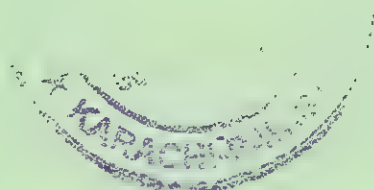
	<p>For <b>Phase-II</b>, the Phase-II shall commence with a written Notice to Commence from the Client.</p> <p>Confirmation of Key Experts' availability to start the Services shall be submitted to the Client in writing as a written statement signed by each Key Expert.</p>
14.1	<p>Expiration of Contract: Phase 2 (Construction Supervision and DNP)</p> <p>The time period shall be <b>forty eight (48) months</b>.</p>
23.1	<p>The following limitation of the Consultant's Liability towards the Client can be subject to the Contract's negotiations:  "Limitation of the Consultant's Liability towards the Client:</p> <p>(a) Except in the case of gross negligence or willful misconduct on the part of the Consultant or on the part of any person or a firm acting on behalf of the Consultant in carrying out the Services, the Consultant, with respect to damage caused by the Consultant to the Client's property, shall not be liable to the Client:</p> <p>(i) for any indirect or consequential loss or damage; and</p> <p>(ii) for any direct loss or damage that exceeds <b>1.5</b> times the total value of the Contract;</p> <p>(b) This limitation of liability shall <i>not</i></p> <p>(i) affect the Consultant's liability, if any, for damage to Third Parties caused by the Consultant or any person or firm acting on behalf of the Consultant in carrying out the Services;</p> <p>(ii) be construed as providing the Consultant with any limitation or exclusion from liability which is prohibited by the "Applicable Law"</p>
24.1	<p><b>The insurance coverage against the risks shall be as follows:</b></p> <p>(a) Professional liability insurance, with a minimum coverage of the 1.5 times of the value of the contract i.e.</p> <p>i) <b>USD 6,505,543/- (USD Six Million Five Hundred Five Thousand Five Hundred Forty Three only)</b></p> <p>ii) <b>PKR 831,819,759/- (PKR Eight Hundred Thirty One Million Eight Hundred Nineteen Thousand Seven Hundred Fifty Nine only)</b></p>







	<p>and claimable in Islamic Republic of Pakistan.</p> <p>(b) Third Party motor vehicle liability insurance in respect of motor vehicles operated in the Client's country by the Consultant or its Experts or Sub-consultants, with a minimum coverage of USD 100,000;</p> <p>(c) Third Party liability insurance, with a minimum coverage of USD 100,000;</p> <p>(d) Employer's Liability and workers' compensation insurance in respect of the experts and Sub-consultants in accordance with the relevant provisions of the applicable law in the Client's country, as well as, with respect to such Experts, any such life, health, accident, travel or other insurance as may be appropriate; and</p> <p>(e) Insurance against loss of or damage to (i) equipment purchased in whole or in part with funds provided under this Contract, (ii) the Consultant's property used in the performance of the Services, and (iii) any documents prepared by the Consultant in the performance of the Services.</p> <p><u>Copy of the above insurance policy shall be presented to the Client within 30 days after the Effective Date of this Contract.</u></p>
27.2	The Consultant shall not use these documents for purposes unrelated to this Contract without the prior written approval of the Client.
29. Code of Conduct	The Consultant is required to have a Code of Conduct for Experts (ES).
33. Removal of Experts or Sub-consultants	<p>Insert the following as Sub-Paragraph 33.3 and renumber original Sub-Paragraph 33.3 as Sub-Paragraph 33.4:</p> <p>"33.3 Experts or Sub-consultants who are found to be in breach of the Consultant's Code of Conduct (ES) (including on sexual harassment, sexual exploitation and sexual abuse) shall be replaced by the Consultant, or at the Client's written request."</p>
42.2	<p>The ceiling in foreign currency or currencies is:</p> <p><b>USD 3,379,064/- (USD Three Million Three Hundred Seventy Nine Thousand Sixty Four only)</b> exclusive of local indirect taxes and the withholding tax for non-resident Experts.</p>



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	<p>The ceiling in local currency is: PKR 489,233,794/- (PKR Four Hundred Eighty Nine Million Two Hundred Thirty Three Thousand Seven Hundred Ninety Four only) exclusive of local indirect taxes.</p> <p>The amount of such taxes is as follows:</p> <p><b>VAT (13%)</b></p> <p>USD 439,278/= (USD Four Hundred Thirty Nine Thousand Two Hundred Seventy Eight only)</p> <p>PKR 63,600,393/= (PKR Sixty Three Million Six Hundred Thousand Three Hundred Ninety Three only)</p> <p><b>Stamp Duty Fee (0.35%)</b></p> <p>USD 11,827/= (USD Eleven Thousand Eight Hundred Twenty Seven only)</p> <p>PKR 1,712,318/= (PKR One Million Seven Hundred Twelve Thousand Three Hundred Eighteen only)</p> <p><b>Withholding Tax (15%) – for Non Resident Experts</b></p> <p>USD 506,860 /= (USD Five Hundred Six Thousand Eight Hundred Sixty only)</p> <p><b><u>The Total Cost inclusive of all indirect taxes:</u></b></p> <p>USD 4,337,029/= (USD Four Million Three Hundred Thirty Seven Thousand Twenty Nine only)</p> <p>PKR 554,546,506 /= (PKR Five Hundred Fifty Four Million Five Hundred Forty Six Thousand Five Hundred Six only)</p>
43.3	<p><b>Price adjustment on the remuneration <u>applies</u> for Phase 2</b></p> <p>Payments for remuneration made in foreign and local currency shall be adjusted as follows:</p> <p>(1) Remuneration paid in foreign currency on the basis of the rates set forth in <b>Appendix C</b> shall be adjusted every 12 months (and, the first time, with effect for the remuneration earned in the 13<sup>th</sup> calendar month after the date of the Contract Effectiveness date) by applying the following formula:</p>







$$R_f = R_{fo} \times \frac{I_f}{I_{fo}}$$

where

$R_f$  is the adjusted remuneration;

$R_{fo}$  is the remuneration payable on the basis of the remuneration rates (**Appendix C**) in foreign currency;

$I_f$  is the official index for salaries in the country of the foreign currency for the first month for which the adjustment is supposed to have effect; and

$I_{fo}$  is the official index for salaries in the country of the foreign currency for the month of the date of the Contract.

The name, source institution, and any necessary identifying characteristics of the official index for salaries corresponding to  $I_f$  and  $I_{fo}$  in the adjustment formula for remuneration paid in foreign currency: Consumer Price Index for all Urban Consumers (CPI-U), not seasonally adjusted; U.S. Department of Labor, Bureau of Labor Statistics

- (2) Remuneration paid in local currency pursuant to the rates set forth in **Appendix C** shall be adjusted every 12 months (and, for the first time, with effect for the remuneration earned in the 13<sup>th</sup> the calendar month after the date of the Contract) by applying the following formula:

$$R_l = R_{lo} \times \frac{I_l}{I_{lo}}$$

where

$R_l$  is the adjusted remuneration;

$R_{lo}$  is the remuneration payable on the basis of the remuneration rates (**Appendix C**) in local currency;

$I_l$  is the official index for salaries in the Client's country for the first month for which the adjustment is to have effect; and

$I_{lo}$  is the official index for salaries in the Client's country for the month of the date of the Contract.

The name, source institution, and any necessary identifying characteristics of the official index for salaries corresponding to  $I_l$  and  $I_{lo}$  in the adjustment formula for remuneration paid in local currency shall be Consumer Price Index (National) published by: **Statistical Bulletin issued by the Bureau of Statistics of Pakistan.**

- (3) Any part of the remuneration that is paid in a currency different from the currency of the official index for salaries used in the adjustment formula, shall be adjusted by a correction factor  $X_0/X$ .  $X_0$  is



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	<p>the number of units of currency of the country of the official index, equivalent to one unit of the currency of payment on the date of the contract. <math>X</math> is the number of units of currency of the country of the official index, equivalent to one unit of the currency of payment on the first day of the first month for which the adjustment is supposed to have effect.</p>
44.1 and 44.2	<p>"the Consultant, Sub-consultants and the Experts shall bear such direct taxes, duties, fees, levies and other impositions imposed, as agreed between the parties, under the applicable law in the Client's country, on the Consultant, the Sub-consultants and the Experts in respect of:</p> <ul style="list-style-type: none"> <li>(a) any payments whatsoever made to the Consultant, Sub-consultants and the Experts, in connection with the carrying out of the Services;</li> <li>(b) any equipment, materials and supplies brought into the Client's country by the Consultant or Sub-consultants for the purpose of carrying out the Services and which, after having been brought into such territories, will be subsequently withdrawn by them;</li> <li>(c) any equipment imported for the purpose of carrying out the Services and paid for out of funds provided by the Client and which is treated as property of the Client;</li> <li>(d) any property brought into the Client's country by the Consultant, any Sub-consultants or the Experts, or the eligible dependents of such experts for their personal use and which will subsequently be withdrawn by them upon their respective departure from the Client's country, provided that: <ul style="list-style-type: none"> <li>(i) the Consultant, Sub-consultants and experts shall follow the usual customs procedures of the Client's country in importing property into the Client's country; and</li> <li>iii) if the Consultant, Sub-consultants or Experts do not withdraw but dispose of any property in the Client's country upon which customs duties and taxes have been exempted, the Consultant, Sub-consultants or Experts, as the case may be, (a) shall bear such customs duties and taxes in conformity with the regulations of the Client's country, or (b) shall reimburse them to the Client if they were paid by the Client at the time the property in question was brought into the Client's country.</li> </ul> </li> </ul> <p>The Client shall bear all the indirect taxes.</p>

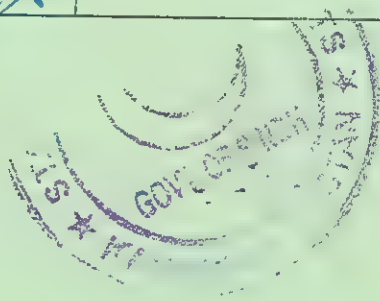


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45.1	<p><b>The currency [currencies] of payment shall be the following:</b>  Foreign Currency: United States Dollar (US \$)  Local Currency: Pakistani Rupee (PKR)</p>																								
46.1(a)	<p>The following provisions shall apply to the advance payment and the advance bank payment guarantee:</p> <p>(1) An advance payment of upto 10% of the <b>Phase 2</b> contract value shall be made within 30 days, of the start of Phase 2, against a Bank guarantee acceptable to the Client. The advance payment will be set off by the Client in equal installments of 12% against the invoices submitted for the <b>Phase 2</b> of the Services until the advance payment has been fully set off.</p> <p>(2) The advance bank payment guarantee shall be in the amount and in the currency of the currency(ies) of the advance payment.</p>																								
46.1(b)	<p><b>The Consultant shall submit to the Client itemized statements at time intervals of every month</b></p>																								
46.1(c)	<p>Replace the words "sixty (60) days" with the words "forty two (42) days" wherever mentioned in the referred sub-clause.</p>																								
46.1(e)	<p><b>The accounts are:</b>  <b>for foreign currency:</b></p> <table border="1"> <tr> <td>Bank Name</td><td>Arab Bank plc, Bahrain</td></tr> <tr> <td>Bank Address</td><td>Building 540/542, Diplomatic Area, Road 1706 Manama, Block 317 Kingdom of Bahrain</td></tr> <tr> <td>Account Name</td><td>Dar AlHandasah Consultants Shair &amp; Partners B.S.C. closed</td></tr> <tr> <td>Account No.</td><td>2002-680294-511</td></tr> <tr> <td>Swift Code</td><td>ARABHBMXXX</td></tr> <tr> <td>IBAN #</td><td>BH94 ARAB 0200 2680 2945 11</td></tr> </table> <p><b>for local currency:</b></p> <table border="1"> <tr> <td>Name of Bank</td><td>National Bank of Pakistan (NBP)</td></tr> <tr> <td>Name of Branch</td><td>PNSC Branch</td></tr> <tr> <td>Name of Beneficiary</td><td>National Engineering Services Pakistan (Pvt.) Ltd.</td></tr> <tr> <td>Account No.</td><td>3000312779</td></tr> <tr> <td>Branch Code</td><td>0250</td></tr> <tr> <td>IBAN #</td><td>PK61NBPA0250003000312779</td></tr> </table>	Bank Name	Arab Bank plc, Bahrain	Bank Address	Building 540/542, Diplomatic Area, Road 1706 Manama, Block 317 Kingdom of Bahrain	Account Name	Dar AlHandasah Consultants Shair & Partners B.S.C. closed	Account No.	2002-680294-511	Swift Code	ARABHBMXXX	IBAN #	BH94 ARAB 0200 2680 2945 11	Name of Bank	National Bank of Pakistan (NBP)	Name of Branch	PNSC Branch	Name of Beneficiary	National Engineering Services Pakistan (Pvt.) Ltd.	Account No.	3000312779	Branch Code	0250	IBAN #	PK61NBPA0250003000312779
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Branch Code	0250																								
IBAN #	PK61NBPA0250003000312779																								
47.1	<p><b>The interest rate is: 1% annual rate</b></p>																								
50.	<p><b>Disputes shall be settled by arbitration in accordance with the</b></p>																								

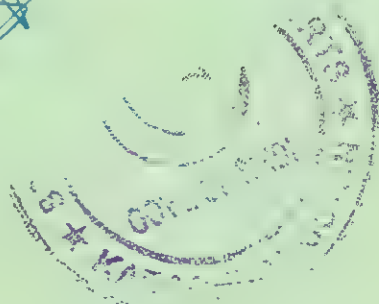


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	<p>following provisions:</p> <p>1. <u>Selection of Arbitrators.</u> Each dispute submitted by a Party to arbitration shall be heard by a sole arbitrator or an arbitration panel composed of three (3) arbitrators, in accordance with the following provisions:</p> <p>(a) Where the Parties agree that the dispute concerns a technical matter, they may agree to appoint a sole arbitrator or, failing agreement on the identity of such sole arbitrator within thirty (30) days after receipt by the other Party of the proposal of a name for such an appointment by the Party who initiated the proceedings, either Party may apply to the Federation Internationale des Ingenieurs-Conseil (FIDIC) of Lausanne, Switzerland for a list of not fewer than five (5) nominees and, on receipt of such list, the Parties shall alternately strike names therefrom, and the last remaining nominee on the list shall be the sole arbitrator for the matter in dispute. If the last remaining nominee has not been determined in this manner within sixty (60) days of the date of the list, the Federation Internationale des Ingenieurs-Conseil (FIDIC) of Lausanne, Switzerland shall appoint, upon the request of either Party and from such list or otherwise, a sole arbitrator for the matter in dispute.</p> <p>(b) Where the Parties do not agree that the dispute concerns a technical matter, the Client and the Consultant shall each appoint one (1) arbitrator, and these two arbitrators shall jointly appoint a third arbitrator, who shall chair the arbitration panel. If the arbitrators named by the Parties do not succeed in appointing a third arbitrator within thirty (30) days after the latter of the two (2) arbitrators named by the Parties has been appointed, the third arbitrator shall, at the request of either Party, be appointed by the International Chamber of Commerce, Paris.</p> <p>(c) If, in a dispute subject to paragraph (b) above, one Party fails to appoint its arbitrator within thirty (30) days after the other Party has appointed its arbitrator, the Party which has named an arbitrator may apply to the International Chamber of Commerce, Paris to appoint a sole arbitrator for the matter in dispute, and the arbitrator appointed pursuant to such application shall be the sole arbitrator for that dispute.</p>
	<p>2. <u>Rules of Procedure.</u> Except as otherwise stated herein, arbitration proceedings shall be conducted in accordance with the rules of</p>



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	<p>procedure for arbitration of the United Nations Commission on International Trade Law (UNCITRAL) as in force on the date of this Contract.</p> <p>3. <u>Substitute Arbitrators.</u> If for any reason an arbitrator is unable to perform his/her function, a substitute shall be appointed in the same manner as the original arbitrator.</p> <p>4. <u>Nationality and Qualifications of Arbitrators.</u> The sole arbitrator or the third arbitrator appointed pursuant to paragraphs 1(a) through 1(c) above shall be an internationally recognized legal or technical expert with extensive experience in relation to the matter in dispute and shall not be a national of the Consultant's home country or of the home country of any of their members or Parties or of the Government's country. For the purposes of this Clause, "home country" means any of:</p> <ul style="list-style-type: none"> <li>(a) the country of incorporation of the Consultant or of any of their members or Parties; or</li> <li>(b) the country in which the Consultant's or any of their members' or Parties' principal place of business is located; or</li> <li>(c) the country of nationality of a majority of the Consultant's or of any members' or Parties' shareholders; or</li> <li>(d) the country of nationality of the Sub-consultants concerned, where the dispute involves a subcontract.</li> </ul>
	<p>5. <u>Miscellaneous.</u> In any arbitration proceeding hereunder:</p> <ul style="list-style-type: none"> <li>(a) proceedings shall, unless otherwise agreed by the Parties, be held in Paris or other neutral venue agreed by the parties;</li> <li>(b) the English language shall be the official language for all purposes; and</li> <li>(c) the decision of the sole arbitrator or of a majority of the arbitrators (or of the third arbitrator if there is no such majority) shall be final and binding and shall be enforceable in any court of competent jurisdiction, and the Parties hereby waive any objections to or claims of immunity in respect of such enforcement.</li> </ul>

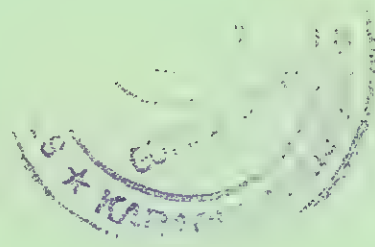


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#### IV. Appendices



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APPENDIX A – TERMS OF REFERENCE



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**The final Terms of Reference (TORs)**







## BACKGROUND

The implementation of a comprehensive solution to Karachi's severe urban mobility problems is underway through decisive Federal and Provincial Governments engagement towards the implementation of a Bus Rapid Transit System (BRTS) as planned under the Karachi Urban Transport Master Plan of 2030. As of 2018, the BRTS implementation efforts in the city, spearheaded by the Federal Government, Government of Sindh (GoS), and the Sindh Mass Transit Authority (SMTA), were focused on: (i) completion of roadworks and associated facilities, and selection of an operator for BRTS operation and maintenance for the Green/Orange Corridor; (ii) continuation and follow-up of contracts for planning, detail engineering design, and business plan definition for the Red Corridor; and (iii) elaboration/update of preliminary design and feasibility studies for Yellow BRT Corridor.

The GoS, SMTA and the World Bank (WB) are committed to financing the infrastructure and structuring the operation and business model for the Yellow BRT Corridor, using a mix of financing instruments to maximize the available funding for the development and operation of the BRTS, through the Karachi Mobility Project (KMP). The KMP follows the integrated corridor management approach aiming to improve the needs of all road users along the corridor (mobility, accessibility, safety). Severely deteriorated road sections along the Yellow BRT Corridor and catchment areas will be improved, traffic management will be upgraded, and parking issues will be addressed. It is estimated that more than 700,000 people will benefit from this project, particularly people living and working along the Korangi industrial area.

In order to support execution of the infrastructure component of the KMP, the SMTA and its Project Management Team (PMT) (hereinafter referred to as "the Client" or "the Employer", as relevant) wishes to engage a qualified consulting firm (hereinafter referred to as "the Consultant") to undertake preparation of Detailed Design, provide procurement assistance, construction supervision, contract administration (in the capacity of the Engineer), and provide support in monitoring and ensuring environmental and social (E&S) safeguard (SG) compliance.

## DESCRIPTION OF YELLOW BRT CORRIDOR

The Yellow BRT Corridor is approximately 21 km long, starting from Dawood Chowrangi to Numaish, and is part of the overall planned Karachi Mass Transit System (KMTS). Its segments are presented in Table 1 and Figure 2 however the Yellow BRT system will also comprise two bus depots (near Dawood Chowrangi and near Indus Hospital). There are also approximately 65 km of complementary feeder roads (hereinafter referred to as "off-corridors") which would be improved as part of the Yellow BRT Corridor development project (Figure 1).

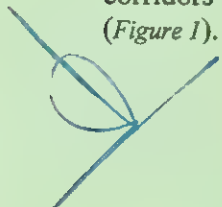






Figure 1 Planned mass transit corridors

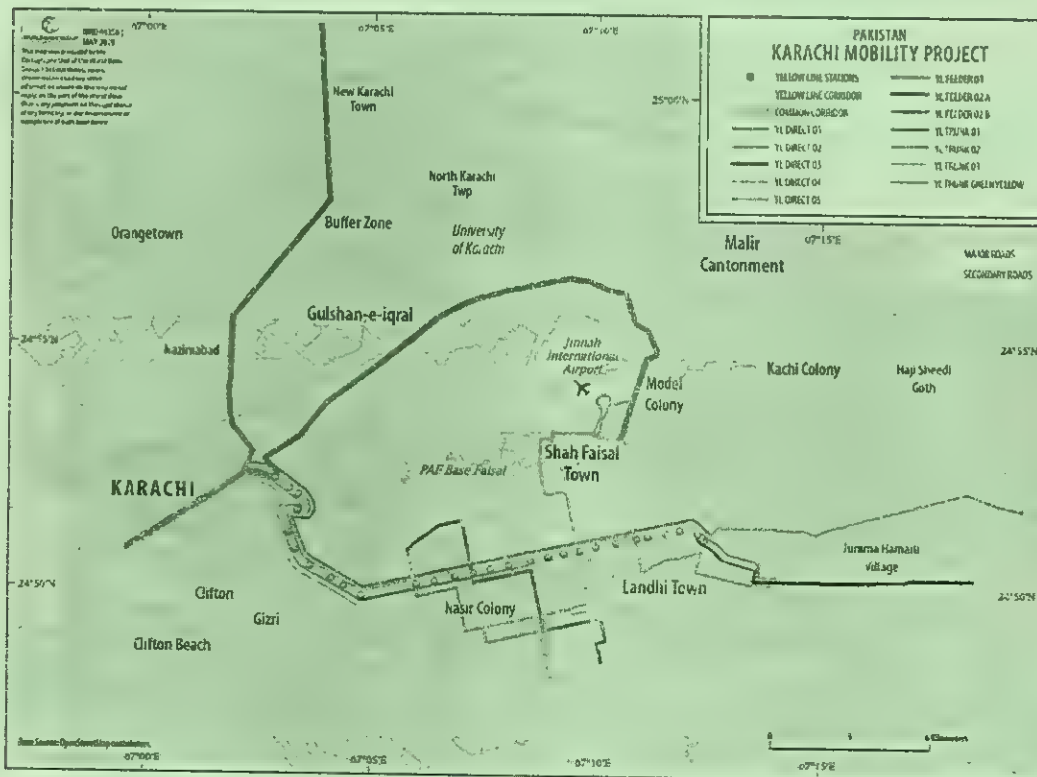


Table 1 Yellow BRT Corridor segments

Segment		Length [km]
0	Dawood Chowrangi - from bus depot entrance to Dawood Chowrangi	0.3
1	Future Colony - from Dawood Chowrangi terminal to Mansehra Colony	1.15
2	8000 Road - from Mansehra Colony to Malir River bridge (Jam Sadiq)	10.65
3	Malir River bridge (Jam Sadiq)	1.1
4	KPT interchange	0.85
5	Korangi Road - from KPT Interchange to Shahrah-e-Faisal Interchange	3.9
6	Shahrah-e-Faisal - from Shahrah-e-Faisal Interchange to Shahrah-e-Qaideen	1.65
7	Shahrah-e-Qaideen - from Shahrah-e-Faisal to M.A. Jinnah Road	1.4
Total:		21.0

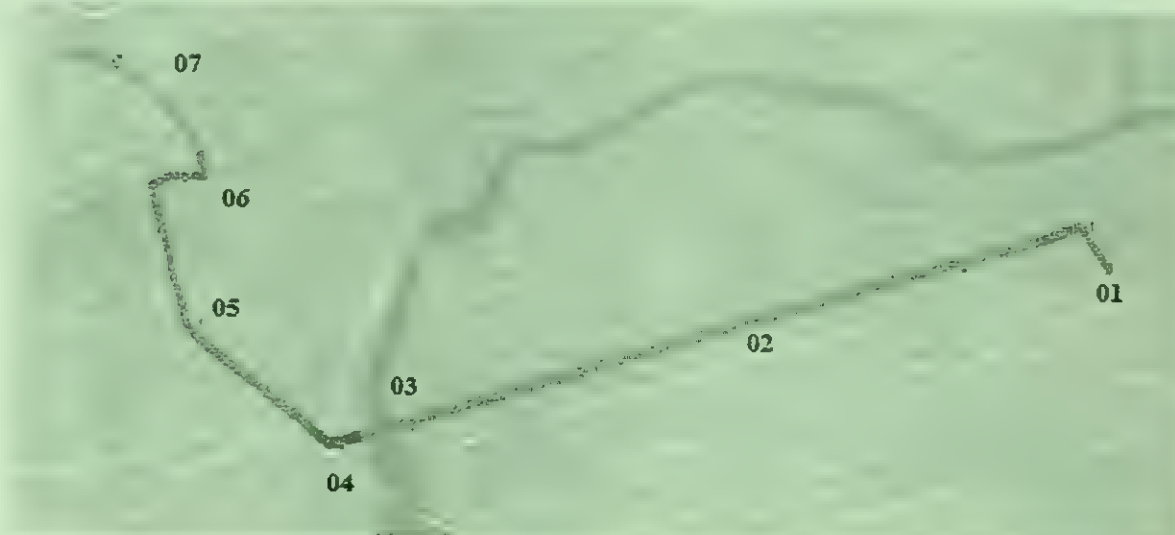


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Figure 2 Yellow BRT Corridor segments



## PRELIMINARY DESIGN

Preliminary Design for the Yellow BRT Corridor has been first prepared in 2014 and then further updated in 2019. During Preliminary Design preparation, mapping of existing road conditions and utilities was performed along the corridor. Also, traffic simulations were carried out at selected junctions. Content of the Preliminary Design drawings is summarized in *Table 2*. These were also accompanied by relevant technical documentation and cost estimates. Drawings are presented in the scale generally appropriate for Preliminary Designs in urban conditions, namely:

- 1:500 for general horizontal alignment and overall layout;
- 1:200 for vertical alignment;
- 1:200 for on stations sites, restructured junctions, and proposed elevated or underground sections;
- 1:50 for relevant details at sidewalks, stairways, pedestrian crossings, station arrangements, passenger shelters, structures, utilities.

Table 2 Summary of the Preliminary Design drawings

Volume	Title	Drawings
I	Infrastructure works	General drawings Topographic survey Layout plan, including typical cross sections and details Existing utilities Depots' typical details Storm water drainage (concept of the system)
II	Architecture and structural works	Stations (typical layouts and cross sections) Depots (master plan layout and structures' layouts and sections)
III	Mechanical, electrical and plumbing works	Layouts, typical details and general distribution schemes for mechanical works, electrical works, plumbing, sewerage and firefighting, at depots



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The following cost components are included in the cost estimate:

- Civil road works (e.g. pavements, delineators, curbs, drainage system);
- Stations (e.g. entrance, kiosk, platform, alignment curbs, shutters, doorways, ceiling, lighting, roof, etc.);
- Bus shelters;
- Traffic signals and traffic management system;
- Road markings and signage;
- Street lighting and urban furniture;
- Utility connections to stations (e.g. water, electricity, telecommunications, sewerage);
- Depot facilities;
- Integration facilities (e.g. universally accessible pedestrian facilities, bicycle parking, pedicab and taxi integration facilities, park-and-ride facilities);
- Intelligent transport system (ITS) (e.g. real-time information displays);
- Fare system equipment (e.g. sales vending, smart cards, validators, gates).

Costing of off-corridor interventions was not estimated in detail through the Preliminary Design.

### ENVIRONMENTAL AND SOCIAL IMPACT ASSESSMENT

Consistent with the WB Safeguard Policies and provincial regulatory requirements – Sindh Environmental Protection Agency (SEPA) under SEPA 2014 –an Environmental Impact Assessment (EIA), a Social Impact Assessment (SIA), and a Compensation and Livelihood Rehabilitation Plan (CLRP) for KMP in May-2019 have been conducted. These safeguard documents are largely based on the 2019 Preliminary Design for the Yellow BRT Corridor. During Preliminary Design preparation, mapping of existing road conditions and utilities was performed along the corridor. Also, traffic simulations were carried out at selected junctions.

Given the project is now planning to commission detailed project design, changes are expected from the preliminary design proposal. Any change, particularly in crucial parameters such as: realignment of original BRT route, shifting to grade-separated solutions instead of at-grade, relocation of key structures (bus stops, parking areas, depots), and expansion of work scope etc. may trigger additional environmental and social implications including safety issues, all requiring renewed assessment. In addition, possible changes in socio-economic context that might have emerged/evolved over time since the preliminary design was completed may require environmental and social assessment afresh. Notwithstanding, the environmental and social assessment also highlights the study limitations and suggests further addition<sup>1</sup>/(revision) under such backdrop.



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## OBJECTIVE OF THE ASSIGNMENT

Objectives of these consulting services are to:

1. Assess the environmental and social safeguard requirements emerged/evolved during detailed design and assist the Client to integrate them in the draft EIA, SIA and CLRP to finalize (as detailed in E&S sections below).
2. Support PMT in the implementation of the project in an environmentally and socially safe and sustainable manner. To undertake capacity building of the PMT
3. Supervise the construction works to ensure that the executed works comply with the approved design, internationally acceptable technical specifications, environmental and social safeguards and sound engineering practice;
4. Prepare final construction reports and compile full set of as-built drawings of all completed works, as well as full set of documents for entry into cadaster books/records;
5. Support the use of Building Information Modeling (BIM) for constructing the whole of the asset digitally and using this model to support all stakeholders during the complete lifecycle of the project.



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### SCOPE OF ASSIGNMENT

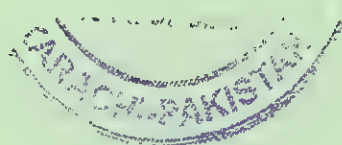
The scope of Services, grouped in two phases, consist of the following major tasks:

#### **Phase 1: DESIGN** *(separately contracted through a lump-sum contract)*

1. Task 1 ☐ Preparation of Detailed Designs;
2. Task 2 ☐ Preparation of Bidding Documents for Contractor Selection;

#### **Phase 2: SUPERVISION** *(Services under this Time Based Contract)*

3. Task 3 ☐ Construction Supervision and Contracts Administration, including post-construction activities.







## **TASK 1 – PREPARATION OF DETAILED DESIGNS**

[DELETED IN ITS ENTIRETY AND MADE PART OF THE FINAL TORs FOR PHASE 1 LUMP-SUM CONTRACT]



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## **TASK 2 – PREPARATION OF BIDDING DOCUMENTS** **FOR CONTRACTOR SELECTION**

[DELETED IN ITS ENTIRETY AND MADE PART OF THE FINAL TORs FOR PHASE 1 LUMP-SUM CONTRACT]



10/1



### **TASK 3 – CONSTRUCTION SUPERVISION AND CONTRACTS ADMINISTRATION**

The Consultant shall perform the duties and authority of “the Engineer” as specified in or as necessarily implied by the contract, as well as administer the construction contract. Taking due regard of all relevant circumstances, the Consultant shall perform his duties or act:

- Where the initiative lies with the Employer/Consultant in administering the construction contract;
- In response to the contractor’s or the Employer’s requests; and
- In observing the requirements of the construction contract;

Wherever appropriate and not in conflict with the construction contract, the Consultant shall exercise every reasonable care to protect the interests of the Employer.

The Consultant will largely support in ensuring and confirming the compliance of EIA, SIA and CLRP through supervision, monitoring, and implementing contractors’ management plan(s) related to environmental performance, reporting non-compliances and ensuring remedies.

In order to fulfill the above, the Consultant shall always take necessary measures and provide appropriate advice to the Client to enable the contract to be completed in timely and cost-effective manner, in conformity with the contract conditions and specifications. The Consultant and the Contractor shall arrange for the Client and the WB the opportunity to inspect the works and related documentation.

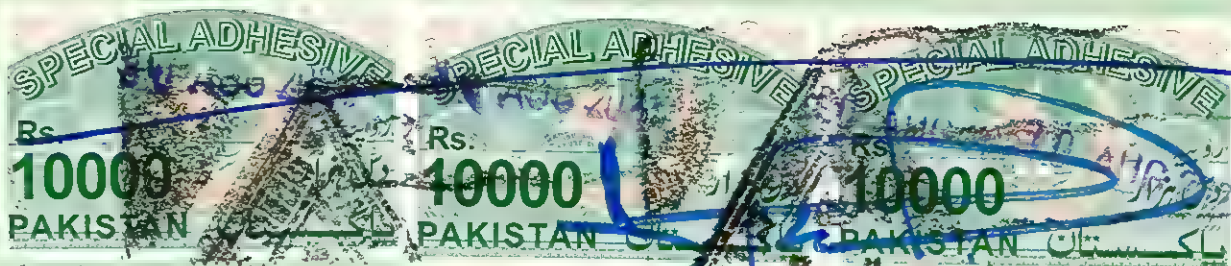
#### **Construction Activities**

During the construction period the Consultant shall:

1. Satisfy himself as thoroughly as possible to the nature and scope of the works, of all information available and of documents and materials to be used by the contractor in executing the works, so as to enable him to perform his duties satisfactorily, study and check all documents associated with the project, foresee possible problems and advise the Employer appropriately during the construction;
2. Set up project control parameters based on the requirements of the project and in conjunction with the contractors to report project plans, cost/schedule status and forecasts, and identify issues with project control parameters. The Consultant should be able to model various recovery scenarios to facilitate decision making of the Client and Contractors;
3. Set up document control as per the requirement of the project to track, manage and store information electronically, reducing paper copies;
4. The Consultant shall monitor the implementation of contractual conditions/clauses in letter and spirit, and timely advice the Client of any lapses. All submissions made by the contractor, with respect to the contract shall be scrutinized, get corrected from the contractor and submitted to the Client with appropriate recommendations under the provisions of the construction contract. Such recommendations must carry contractual and legal qualification. Setup and establish the system of managerial control for the







works contract with provision of assistance to the Client maintaining control over activities' prices and contract outcome costs, in monitoring the progress of the works, the disbursements and technical records;

5. Review of the construction drawings and supporting documents to ensure that all technical requisites are met to produce a safe and technically correct design. Obtain a copy and keep a file of any applicable standards, rules or regulations of all the relevant authorities and public bodies and companies, whose property or rights are affected or may be affected in any way by the project. Monitor and report to the Client on obtaining compliance with the specified consents by the contractor;
6. Supervise the construction of the works with due diligence and efficiency and in accordance with sound technical, administrative, financial and economic practice. The Consultant shall perform all duties associated with such tasks to ensure that only the best construction practices are followed, and that the final product is in all respects equal to, or better than that specified, and is carried out in full compliance with the governing specifications;
7. Verify that the progress of the works is in compliance with the time programme pursuant to Conditions of Contract and milestone schedule approved under the construction contract. Notify the Client as early as possible in advance of any possible failure to attain a milestone by the applicable date or non-compliance with the programme. If for any cause other than those listed in the construction contract, the rate of progress of the works is at any time, in the Consultant's opinion, too slow to ensure the completion of the works within time for completion, instruct the Contractor in accordance with the construction contract in writing with a copy to the Employer;
8. Prepare a comprehensive SG compliance monitoring framework in consultation with the PMT. The framework should cover, but not limited to, the parameters to be monitored (as identified by SG documents), monitoring tools (templates/checklists/ field visits / meetings and consultations etc.), monitoring frequency, resource allocation including assigned staff with clear roles and responsibilities, the ways to identify non-compliances and remedies, reporting and due diligence mechanism within/along the reporting line. *Such monitoring framework will be a living document and may be customized/adjusted, subject to client's approval, to the needs periodically.*
9. Confirm and ensure that Contractor(s) has prepared the site-specific Contractor's ESMP (C-ESMP) and relevant mitigation plans to offset or reduce E&S, health and safety impacts during construction/ implementation phase (as guided by EIA, SIA). Review and approve C-ESMP, the relevant mitigation plans, ESHS provisions of method statements and implementation plans including all updates and revisions (not less than once every 6 months). Some of these mitigation plans and measures may include:
  - a. Sanitation plan,
  - b. Soil pollution control plan
  - c. Dust/Air pollution control plan
  - d. Waste management plan
  - e. Health and safety plan
  - f. Noise abatement plan
  - g. Traffic management plan
  - h. Campsite restoration plan
  - i. Compensatory tree plantation and planted tree survival plan





j. Community Health and Safety Plan

10. Measures to address impacts on public utilities, parking in narrower sections and restriction to access and mobility during construction.
11. Provide effective support in CLRP implementation.
12. Play an effective role in implementing the grievance redress mechanism (GRM), as described in the social safeguard documents, to receive and facilitate resolution of displaced persons' concerns, complaints and grievances about the CLRP implementation and the projects overall environmental and social performance.
13. Monitor and confirm that the contractor(s) has put in place the required organizational set-up and is applying relevant safeguard management tools and applying non-compliance remedies effectively.
14. Monitor and ensure that in case of sub-contracting, the relevant contractor is adhering to and complying with all its contractual commitments with regards to safeguard compliance.
15. Support and confirm in conducting capacity building activities (trainings, awareness sessions, exposure visits etc.) as identified and outlined in the safeguard documents for key project staff and implementing partners/stakeholders. It is further expected that consultants will design and impart tailor made/customized training curricula as per need and requirement. The participants<sup>8</sup> may include the staff/workers of: (a) PMT-SMTA, (b) Operator Company, (c) Environmental Consultancy Firm, (d) Contractors.
16. Monitor, ensure and confirm that respective contractor(s) is taking appropriate mitigation measures against the potential adverse environmental, social, health and safety (ESHS) impacts. Some of the potential hazards/adverse impacts against which mitigation measures need to be monitored on priority include:
  - a. Existence of electric pylons: leading to safety hazards due to existence of electric pylons at corridor
  - b. Air Quality: air pollution resulting in poor visibility, loss of vegetation, property damages, and health implications on workers and nearby community due to fugitive emissions of dust (SPM, PM10, PM2.5), stack and vehicular emissions during construction activities;
  - c. Soil: Soil contamination due to storage of oily parts and oily rags on unpaved floors, spillage and leakage of chemicals, fuel, and lubricants on soil (construction camps/sites);
  - d. Noise: may cause nuisance and health impacts on workers and nearby community due to noise from construction machineries, generators, construction activities and vehicular movement;
  - e. Clogging of wastewater drains: potentially causing nuisance, odor, soil pollution, outbreak of diseases due to ponding and breeding of mosquitos and flies;

<sup>8</sup> BRT ESIA Section 7.5.

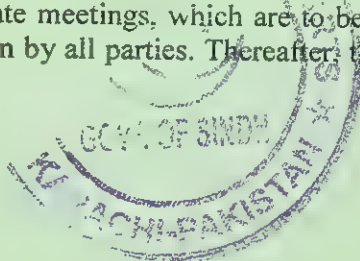


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- f. Protection of wastewater drains during construction activities to protect clogging of drains.
  - g. Flooding at Corridor: potentially causing nuisance, odor, soil pollution, outbreak of diseases due to ponding and breeding of mosquitos and flies;
  - h. Proper Storm Water Drainage at Corridor: Proper storm water drainage system is required at corridor to avoid flooding issue Designer Design stage
  - i. Wastewater: soil and water contamination, odor, health implications on workers and community (due to breeding of mosquitos and flies), and nuisance due to improper wastewater Treatment;
  - j. Vegetation loss / Tree Cutting
  - k. Physical Cultural Resources (PCRs): Chances of the loss of PCRs at the project sites during excavation
  - l. Control of Stack and Vehicular Emissions: the stack emissions from generators, if used as standby source of power supply and vehicular/machinery movement at the site can affect the ambient air quality.
  - m. Solid Waste and Surplus Construction Material: may cause nuisance, health implications on workers and community
  - n. Chemicals and Hazardous Waste: potentially causing nuisance, odor, soil pollution, outbreak of diseases due to ponding and breeding of mosquitos and flies;
  - o. Health and Safety: health and safety hazards for workers and community due to construction activities/sites; thus, requiring Occupational Health and Safety Management.
  - p. Fire: leading to serious health, safety issues and loss of property assets.
  - q. Traffic: traffic congestion at or around construction sites due to construction activities may cause disruption of normal social activities, loss of time and resources etc.
17. Check that the Contractor's actual reporting (content and timeliness) is in accordance with the Contractor's contractual obligations;
  18. Review and critique, in a timely manner, the Contractor's ESHS documentation (including regular reports and incident reports) regarding the accuracy and efficacy of the documentation;
  19. Issue acceptance and/or approval, as appropriate, of submissions required from the Contractor, including, but not limited to: staff appointments, insurances, guarantees, licenses, programs, method statements, Traffic Management Plan (TMP), safety measures, suppliers and materials for incorporation in the works, quality assurance and control plans, laboratory provisions and execution of the testing program, subcontractors, plant, equipment and Environmental and Social Management Plan (ESMP), including the plan on Gender-Based Violence (GBV), and other E&S mitigation plans required in the EIA;
  20. Coordinate actions and activities of all the stakeholders concerned with the Project through appropriate meetings, which are to be recorded. The minutes shall report on the actions to be taken by all parties. Thereafter, the Consultant will check that the actions to



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- be taken by the parties are implemented. The Consultant will act on behalf of the PMT in this matter and will be responsible for enforcing quality criteria, including safety measures, actions identified in the ESMP and TMP, time schedule, and all other conditions included in the contract;
21. Ensure that the day-to-day construction activities are carried out in an environmentally and socially sound and sustainable manner, and monitor and supervise compliance with environmental and social impact mitigation measures during the works implementation in consultation with the environmental and social staff in the PMT. Agree remedial action/s and their timeframe for implementation in the event of a noncompliance with the Contractor's ESHS obligations;
  22. Ensure appropriate representation at relevant meetings including site meetings, and progress meetings to discuss and agree appropriate actions to ensure compliance with ESHS obligations
  23. Jointly with the contractor, identify and mark all utilities with the help of competent authorities and assist the Client in effecting removal/relocation (where necessary) of utilities within the RoW;
  24. Jointly with the contractor, identify and locate all beacons and benchmarks to enable the contractor to set out and perform the works;
  25. Liaise with the respective authorities to ensure that the assessment and compensation for properties if any, within the RoW is done before the contractor is given possession of site. The Client is responsible for handing over the RoW to the Engineer and contractor for the road construction works;
  26. Inspect, test or have tested by competent entities, and approve all materials to be incorporated into the works to ensure compliance with technical specifications requirements. A system of formal testing procedures must be set up covering the frequency of testing, type of tests to be carried out and methods and formats of reporting the result. According to the provisions of the laws and regulations regarding control of the quality of the works, the Consultant shall: (i) prepare the program of testing the quality of the executed works, (ii) order any investigations and testing to determine the cause of defects and instructing the removal of improper work, (iii) take samples from the site, (iv) supervise performance of the test work, (v) issue reports regarding the observed quality of the executed works, and (vi) recommend actions to be taken in the case of unsatisfactory result;
  27. Keep updated all records including reports, works diaries, correspondence, instructions given to the contractor, test records, payment records and all other relevant documents pertaining to the works operations and supervision contract;
  28. Maintain a site diary on a daily basis with the contents and format to be agreed with the Client. Site diary will record all events pertaining to administration of contract, instructions issued to the contractor, pertinent requests from the contractor and any other information which will be of assistance in resolving any dispute or claims. The site diary will include the daily diary sheets from members of the supervision staff, and instructions and observations made by the representative of the Client during any of the site visits;
  29. Prepare consolidated monthly reports on physical and financial status, site meetings and contractual matters with particular reference to variation orders and contractor's claims. Monthly reports shall deal specifically with monitoring and follow-up of agreed environmental and social mitigation measures and with the contractor's adherence to health and safety standards and anti-corruption measures as applicable under the







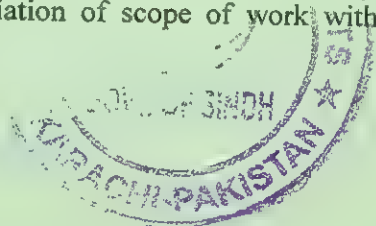
- contract. Specifically, report will include a breakdown of non-compliances and rectification by the contractor, and the summary of testing and monitoring results. Each monthly report should include recommendations if any, for action by the Employer;
30. Provide immediate notification to the Client should any incident in the following categories occur while carrying out the Services. Full details of such incidents shall be provided to the Client within the timeframe agreed with the Client.
- Confirmed or likely violation of any law or international agreement;
  - Any fatality or serious (lost time) injury;
  - Significant adverse effects or damage to private property (e.g. vehicle accident); or
  - Any allegation of gender-based violence (GBV), sexual exploitation or abuse (SEA), sexual harassment or sexual misbehavior, rape, sexual assault, child abuse or defilement, or other violations involving children
31. Ensure that contractor immediate notifications on ESHS aspects are shared with the Client immediately;
32. Immediately inform and share with the Client any immediate notification related to ESHS incidents provided to the Consultant by the Contractor, and as required of the Contractor as part of the monthly and quarterly reporting;
33. Share with the Client in a timely manner the Contractor's ESHS metrics, as required of the Contractor as part of the monthly and quarterly reports.
34. In collaboration with the contractor, monitor the creation of employment opportunities as a result of the works, by recording month by month the number of people employed by the contractor and sub-contractors, and calculate the number of person-days of work created by the works contract (separately for men and women). As much as possible and reasonable, estimate the creation of employment opportunities also through businesses indirectly related to the works;
35. Prepare control charts of main activities and a project master schedule, indicating both past performance and forecasts for completion including time involved in each case. The methodology will involve development of a hierarchy of programs, including a summary program for overall control, contractor's mobilization, construction activities including key dates, completion and commissioning, and defects liability requirements. It will also cover document review and formal contract documentation. Representation of progress on individual elements will depend on the nature of the works. The progress of each major operation will be reported individually and marked-up diagrams used to show the comparison of work actually completed with programmed completion. This clear diagram presentation supplements the activity progress information given in the tabular schedule reports and bar charts. The Consultant shall, to the extent possible, link and generate the progress and all status reports and monitoring of the work program using the appropriate computer software agreed with the Client;
36. Check and ascertain the contractor's interim and final payment certificates for consideration by the Client. Interim Payment Certificates (IPC) for the works executed should clearly indicate the foreign exchange costs, the local costs and taxes and duties. IPCs to be submitted to the Client for payment purposes shall include the total cost of the works executed in foreign exchange and local costs (net of taxes and duties). Resolve with the contractor, where possible, any mistakes and queries which may arise in conjunction therewith, and advise the Client of any adjustments considered







- necessary;
37. Record, examine and evaluate all claims submitted by the contractor and submit timely recommendations thereof for consideration by the Employer;
  38. Negotiate with the contractor the price of additional works in the contract, if any, subject to the approval of the Client;
  39. The Consultant may, with prior consultation with the Client, effect changes in design or specifications where required, which will improve the quality of the works. Such changes shall not increase the contract time, nor shall increase in contract price resulting from such changes exceed a percentage to be agreed with the Client. In addition, such changes shall also be subject to reassessment of E&S implications and required measures;
  40. The Consultant shall monitor and keep an inventory of all shop drawings for each works component; a digital archiving database on computer in this regard shall be developed. The Consultant shall advise the Client that the material and specifications used conforms to the agreed conditions of contract as depicted from the shop drawings. 10% sampling of fixtures shall be tested for compliance;
  41. Prepare and submit to the Client the final account for the executed works;
  42. Foresee potential problems, specially based on the lessons learned from the projects of similar nature, and advise the Client appropriately during the construction period;
  43. The Consultant shall assist the Employer in settling of the audit observations and objections raised [if any] by any department/authority/agency and prepare replies in this regard, related to the project and provide available relevant documents/papers/letters etc. to support the replies;
  44. Where applicable, the Consultant shall continuously review condition of the existing roads/streets in the area used as construction transport routes, and suggest necessary repairs of damage due to such traffic to the appropriate quality standards;
  45. Supervise contractor's work on preparation of as-built drawings and maintenance manuals. The consultant shall validate the drawings as per construction done. The Consultant shall develop the firm-up estimate as per final completion of the Project;
  46. Prepare a final construction report;
  47. Prepare complete set of documents for technical acceptance procedure with the relevant authorities, as well as complete set of documents to enable entry into cadaster books/records;
  48. Participate in the semi-annual project supervision missions, which may take place in Pakistan or in neighboring countries, upon the request of the Employer or WB.
  49. The Consultant shall assist the Client during the Dispute Adjudication Board (DAB) proceedings, if any, and assist the Client in submission of response to DAB queries and attend meetings alongside the Client whenever required during the DAB proceedings.
  50. Undertake audits and inspections of Contractor's accident logs, community liaison records, monitoring findings and other ESHS related documentation, as necessary, to confirm the Contractor's compliance with ESHS requirements
  51. The Consultant shall seek prior written approval of the Client to:
    - a. Issue the order to commence the works;
    - b. Issue any variation of scope of work with or without financial implications for







#### The Final Terms of Reference (TORs)

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the contract price, except in an emergency situation, as reasonably determined by the Consultant;

- c. Sanction additional items, sums or costs;
- d. Approve subletting of any part of the works;
- e. Approve any extension of the time for completion;
- f. Issue instruction for suspension of all the works;
- g. Approve any other type of variation;
- h. Perform additional control testing in excess of the quantities defined by the relevant regulations.

If the Consultant does not fulfill its obligations under subparagraphs (a) to (h) above, it will assume full financial and legal responsibility of such fault.

#### Post-Construction Activities

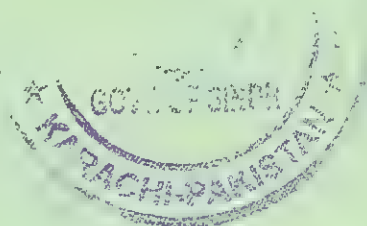
The Consultant shall supervise any corrective repairs and other works (including the administrative aspects of the works) during the Defect Notification Period (DNP) which is set to 12 (twelve) months. For purposes of carrying out these services the Consultant shall assign necessary personnel to carry out inspection of the works and for the final inspection, preparation and issuing of final certificate. During this period, the Consultant shall be expected to draw the attention of the contractor to any defects as soon as such defects are noticed and shall supervise the subsequent remedial works by the contractor, as well as report to the PMT on defects and remedial works.

#### Capacity Building and Innovative Approach

The Consultant would be required to plan and deliver capacity building trainings, through internationally accredited institutions / trainers, for the Client's staff. These trainings would be in the areas of BRT design & planning concepts (four complete trainings/certifications), procurement (design build contract) & contract management (two complete trainings/certifications), project management (two complete trainings/certifications), BIM (two complete trainings/certifications), QHSE (four complete trainings/certifications) and relevant engineering software. These trainings must be internationally recognized institutions / trainers.

The Client desires to implement the Project adopting new and modern techniques for project planning, design and implementation i.e. BIM. The Consultant will undertake the design stage using processes compliant with BIM 2.0 (or later), as defined in BS 1192 or equivalent. All design layers embedded in 4D BIM model with materials information including recommended vendors. During the construction stage of the project, the consultant shall use BIM 2.0 (or later) processes to fulfill its contractual obligations to the Client. The following BIM deliverables and other outputs will be required:

- Site model
- Massing model
- Architectural, structural, MEP models
  - For regulatory submissions
  - For coordination and / or clash detection analysis
  - For visualization



12/10/20



– For cost estimation

- Schedule and phasing program (In BIM)
- Construction and fabrication models
- Shop-drawings
- As-built model (in native proprietary or open formats)
- Data for facility management
- Other additional value-added BIM services

There will be routine presentations during the Project to monitor the BIM model in contrast to the construction works and the final BIM model shall be under the ownership of the Client. Therefore, the Consultant must identify skilled staff for all disciplines who will take part in the project delivery from design stage to execution and operation/maintenance through BIM.

**Points of Discussion as agreed during the Negotiations:** During the negotiations it was agreed that the Consultant will submit LOD 300 model during Phase 1. Whereas, the civil works contractors shall update this model from LOD 300 to LOD 400/500 and made part of their respective scope of works as further specified in the technical specifications / employer's requirements for relevant construction packages, and submit back for review by the Consultant for final review and record. The Consultant shall ensure that this requirement is duly taken care at the time of Request for Bids preparation.

**Points of Discussion as agreed during the Negotiations:** During the negotiations, it was agreed, upon the request from the Client that revision of PC-1 will be undertaken by the Consultant, If the PC1 revision warrants the inputs from other specialties other than TORs (example buses/ITS/etc.), these shall be provided to the Consultant for the incorporation in the Revised PC-1 and producing reasonable number of copies for the Client. The same was mentioned under "response to queries raised in pre-proposal meeting dated 28<sup>th</sup> November 2020".

The forecasted demand will be validated utilizing the existing traffic model that was prepared and approved during the preliminary stage and which will be handed out by the Client to the Consultant. The Consultant scope of work does not cover any major modifications to the existing traffic model other than what is stipulated in the project brief.

**Points of Discussion as agreed during the Negotiations:** During the negotiations, it was discussed and agreed with the consultant that the TORs be fulfilled in line with the proposed methodology (submitted by the consultant as a part of technical proposal).







## DELIVERABLES

The Consultant shall prepare and submit designs, documents and reports described in this section. All deliverables shall be prepared in English. In addition to 3 (three) hard copies, electronic version of each report, in an open format ready for editing (pdf version is not acceptable), will be submitted. The *Table 6* below provides the summary of all specified and described deliverables, and schedule of submission.

**Points of Discussion as agreed during the Negotiations:** *During the negotiations, it was agreed and clarified that the procurement of software is not the part of the TORs. However, the Consultant shall hand-over the deliverables to the SMTA as per the TORs including soft copies of the drawings; model(s); and simulations in relevant software version but not the software(s) itself.*

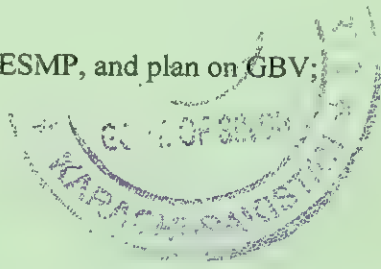
### WORKS COMMENCEMENT REPORT

The Consultant shall submit the Works Commencement Report within 4 (four) weeks of commencement of the construction works in the field, for each of the works contracts. This report shall include results of the contractor's work program review, any modifications thereto, status of the contractor's mobilization, advance payment, bank guarantees, insurances, program of quality testing, and any other matters requiring the Client's attention and action.

### MONTHLY PROGRESS REPORTS

The Consultant shall prepare progress reports every month for the duration of the works, for each of the works contracts. These should reach the Client not later than 15 (fifteen) days after the end of the month being reported on. The format and the text of the monthly progress reports shall be as agreed with the Client. The report will include, but not be limited to the following:

- Useful information regarding the implementation of the contract allowing a technical and financial follow up of the project;
- Recording of any agreed changes on the original envisaged technical solutions;
- Suggestions for resolution of any technical and other problems (a separate section will be given to cover issues, problems and solutions) which occur and those affecting the progress of the works such as variation orders to the contractor and contractor's claims;
- Financial status of both the construction and the supervision of the civil works;
- Progress charts including percentages of completion of individual main work items and overall contract;
- Status on contractor's allocated resources vs. actual resources deployed at site;
- Quarterly budget forecasts and milestone values expected to be achieved;
- Weather information and charts;
- Construction and supervision data;
- Breakdown of non-compliances and rectification by the contractor, and the summary of testing and monitoring results;
- Status of compliance with the ESMP, and plan on GBV;





Information on contractor's adherence to health and safety standards and anti-corruption measures.

#### ENVIRONMENTAL AND SOCIAL SAFEGUARDS MONITORING REPORTS

The Consultants will generate E&S safeguards monitoring data/reports on monthly and quarterly basis as guided by EIA, SIA, and CLRP. The reporting will also include the implementation of the Grievance Redress Mechanism (GRM). Quarterly Progress Report (QPR) will be shared, among others, with the Bank for its review and final clearance.

#### DEFECT NOTIFICATION PERIOD REPORTS

The Consultant shall submit quarterly reports, for each of the works contracts, showing events and activities for the previous reporting period during DNP within 10 (ten) days after the inspection.

Final DNP report, for each of the works contracts, will be submitted within 30 (thirty) days after the expiration of the DNP.

#### SPECIFIC REPORTS

The Consultant shall deliver special reports on any major issue raised during the contract implementation, at the Client's request.

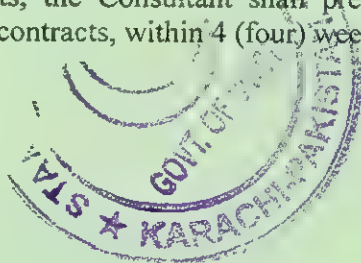
#### FINAL CONSTRUCTION AND PERFORMANCE REPORTS

The draft Final Construction Report, for each of the works contracts, shall be submitted not later than 4 (four) weeks after the completion of construction works (i.e. issuance of Taking over Certificate). The report should enable the Client to know the type, quality and quantity of materials used and all information which, together with the as-built drawings (original and 5 (five) hard copies) and specifications and maintenance manuals, will help in maintenance of the Yellow BRT Corridor and off-corridors.

The report shall also include a summary of principal difficulties encountered during construction and means employed to overcome them, changes (if any) made in the original design, modifications to specifications and conditions of contract, all variation orders, assessment of contractor's claims, utilization of provisional sums, price variation and physical contingency sums, cumulative monthly payments to the contractor, by date and number of payment certificate and break down into foreign and local currencies and including a similar payment schedule for supervision services. The details of the overall project costs (construction and supervision) with justification for any significant differences with the original shall be given in the final report. All necessary approvals by the Client and other relevant authorities shall be attached.

The Client shall review the draft Final Construction Report, for each of the works contracts, within 2 (two) weeks of submission upon which the Consultant will have additional 2 (two) weeks for submission of the final version.

Upon issuance of the Performance Certificate and the final payment certificates, for each of the works contracts, the Consultant shall prepare the Project Performance Report, for each of the works contracts, within 4 (four) weeks of issuance of Performance Certificate.







Submission and Approval of Deliverables:

The Consultant will have to submit the deliverables as per the timelines mentioned in Table 6.

Table 6 Summary and schedule of deliverables (\*Start means contract effective date)

Phase	Deliverable	Submission
Supervision	Works Commencement Report (for each works contract)	4 weeks from start of works contract 15 days after the end of month being reported
	Monthly Progress Reports (for each works contract) Environmental and Social SG Monitoring Reports	on monthly and quarterly basis as guided by EIA, SIA, and CLRP
	Defect Notification Period Reports	
	Quarterly reports (for each works contract) Final DNP Report (for each works contract)	10 days after inspection 30 days after expiration of the DNP
	Specific Reports	15 days upon request
	Final Construction Reports (for each works contract)  Project Performance Reports (for each works contract)	Draft 4 weeks after completion of construction works Final 2 weeks after receipt of comments 4 weeks after issuance of Performance Certificate
Note: SMTA will provide their comments within 2 weeks from the date of receipt of the Draft report(s) for the Consultants to finalise the relevant report(s).		





## TEAM COMPOSITION

In order to execute its obligations, the Consultant shall provide the staff and its head office expert assistance as described hereunder. It is specifically noted that the preparation of the Detailed Design for the Yellow BRT Corridor, Depots and off-corridors will run in parallel and the Consultant is required to secure enough capacity of design teams. In order to properly undertake the services, the Consultant shall be expected to field well-qualified key & non-key staff with fluency in English, headed by a **Project Manager**.

**Project Manager:** Shall have overall responsibility for coordination among the consultant's team, PMT/SMTA and other stakeholders during the complete implementation of the project and provides overall guidance and support to its team. S/he shall possess at least 20 (twenty) years of experience, out of which at least 15 (fifteen) years as a team leader or equivalent capacity on civil engineering projects preferably infrastructure development and has led the team of international and national experts.

**Educational Qualification:** Shall be a qualified Civil Engineer, preferably with master's degree in civil engineering or relevant subject (internationally recognized professional qualification). The person on this position should have ability to lead team-work during the projects, inter-personal, inter-cultural and strong communication skills to ensure effective stakeholder management throughout the project.

## KEY STAFF

### Phase 1: DETAILED DESIGN AND PROCUREMENT SUPPORT

[DELETED IN ITS ENTIRETY AND MADE PART OF THE FINAL TORs FOR PHASE 1 LUMP-SUM CONTRACT].



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## **Phase 2: CONSTRUCTION SUPERVISION & DNP**

The Consultant's supervision team shall include the following key staff members:

- 1.3 **Chief Resident Engineer (CRE) / Team Leader Construction:** At-least eighteen (18) years of professional experience in design and construction supervision of infrastructure projects; out of which at-least fifteen (15) years in the capacity of senior resident engineer leading the teams of construction supervision staff on infrastructure projects of similar nature, scale and complexity. S/he shall be responsible for the entire construction supervision matters. S/he shall be responsible to work closely with design team, supervision staff, contractors and the Client to keep the project progress monitored and take appropriate actions when necessary to ensure timely completion of the project.

*Educational Qualification:* Shall be a qualified Civil Engineer, preferably with master's degree in civil engineering or relevant subject (professional qualification recognized internationally);

- 1.4 **2 (Two) Resident Engineers,** with at least 15 (fifteen) years of professional experience, out of which at least ten (10) years of extensive experience as a resident engineer or equivalent capacity on urban infrastructure construction projects on projects of similar nature, scale and complexity. They shall be responsible for construction aspects for the BRT corridor, off-corridors and bus depots with priority to the quality and safety matters. They shall lead teams of their respective assistant resident engineers and other construction supervision staff and shall report to the CRE. Experience of working for at least 5 (five) years in countries with similar conditions and good knowledge of Urdu will be an added advantage.

*Educational Qualification:* Shall be a qualified Civil Engineer, preferably with master's degree in civil engineering or relevant subject (professional qualification recognized internationally);

- 1.5 **Senior Contract Management Specialist:** At least fifteen (15) years of experience, out of which at least ten (10) years in urban infrastructure construction projects of similar scale and complexity. S/he will track and monitor all contractual issues, monitor and maintain an overview of issues that may put the Client at risk of financial or time effect under the terms of the contract, provide instructions on claims from a contractual point of view, establish and maintain a record of all instructions and notices issued under the terms of contract, assess the extent of cost and time effect of variations, solve problems in application of contract and legal rules, prepare drafts of any submissions and certificates for issue.

*Educational Qualification:* Shall be a qualified Civil Engineer, preferably with master's degree in civil engineering or relevant subject (professional qualification recognized internationally).





## NON-KEY STAFF

The following non-key staff is deemed to be necessary to comply with the required scope of the design and supervision phases:

**1.6 Urban Space Management Specialist:** At least ten (10) years of professional experience in implementation and management of urban projects having experience in at least two (2) projects of similar nature, scale and complexity. S/he must have a master's degree in urban planning with technical specialization in parking studies, design of on-street and off-street parking facilities, and knowledge of technologies and systems for administering parking charges, and enforcing parking regulations.

*Educational Qualification:* Shall be a qualified Urban Planner and/or Civil/ Transportation Engineer, (professional qualification recognized internationally);

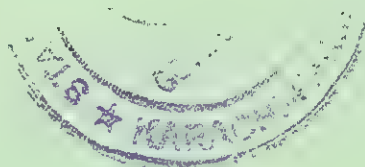
**1.7 Senior Traffic Engineer:** With at least fifteen (15) years of professional experience in traffic engineering for Urban roads and Mass Transit facilities. S/he will possess expert knowledge of traffic engineering principals and be proficient in the use of traffic modelling & simulation software having experience in at least three (3) projects of similar nature, scale and complexity. S/he shall work closely with the BRT design engineers and shall be responsible for undertaking classified movement surveys, review and advise on BRT service plan and travel demand model used to devise the route network and estimated ridership and simulation of the entire Yellow BRT Corridor (specifically micro-simulations at junctions). S/he shall also be responsible to advise on traffic management and safety matters along the corridor and during construction, working in close cooperation with Traffic Safety Engineer. Moreover, s/he will be tasked to plan and deliver capacity building training sessions for the Client's staff on traffic planning and engineering techniques in similar projects, according to the best practices adopted internationally.

*Educational Qualification:* Shall be a qualified Civil / Transport Engineer, preferably with master's degree in Transportation/traffic engineering or relevant subject (professional qualification recognized internationally);

**1.8 Non-Motorized Traffic (NMT) Specialist:** At least fifteen (15) years of professional experience out of which at-least ten (10) years in planning and designing of projects for NMT. S/he shall work closely with the road/BRT/traffic engineers and shall be responsible for planning and designs of NMT facilities with special emphasis on quality and safety aspects. Moreover, s/he will be tasked to plan and deliver capacity building training sessions for the Client's staff on the practical aspects of NMT according to the best practices adopted internationally.

*Educational Qualification:* Shall be a qualified Urban Planner and/or Civil / Transportation Engineer preferable with master's degree in civil / Transportation Engineering or relevant subject, (professional qualification recognized internationally);

**1.9 Occupational, Health and Safety Specialist:** At least fifteen (15) years of







experience in managing occupational health and safety aspects during the execution of large civil works projects. S/he will be responsible for OHS aspects of work sites and shall submit monthly reports to the CRE on the status of implementation of mitigation measures, complaints received, and actions taken. The OHS specialist shall ensure that all necessary equipment (including personal protective equipment) and support including but not limited to provision of dedicated vehicles, office space and accessories, safety related tools are provided to the contractor's OHS manager during the contract. S/he will, jointly with the Social Safeguards Specialist and Environmental Safeguards Specialist assist in resolution of relevant complaints during project implementation. Moreover, s/he will be tasked to plan and deliver capacity building training sessions for the Client's and contractor's staff on the practical aspects of OHS, (design for safety, construction safety, accident prevention etc.) according to the best practices adopted internationally.

*Educational Qualification:* Shall have relevant qualification and certification recognized nationally and internationally;

1.10 **6 (Six) Assistant Resident Engineers:** At least 10 (ten) years of experience in supervision of road, bridges, infrastructure works. Reporting to the resident engineer of their respective packages, their duties shall include management of site operations, verifying that the contractor fulfils its duties and responsibilities in carrying out and completing the contract, maintaining all the records that are relevant to the performance of the contract.

*Educational Qualification:* Shall be a qualified Civil Engineer (professional qualification recognized internationally) with minimum Bachelors degree from an accredited university;

1.11 **Architect:** At least fifteen (15) years of professional experience, out of which at least ten (10) year experience in the architectural design and supervision of urban transit or relevant works. S/he shall be responsible for architectural (and visual) design and supervision of all elements for the BRT corridor and grade separated structures including stations and depots, with due consideration to the innovative practices and sustainable designs adopted internationally. Experience of working for at least 5 (five) years in countries with similar conditions and good knowledge of Urdu will be an added advantage.

*Educational Qualification:* Shall be a qualified Architect preferably with master's degree (professional qualification recognized internationally);

1.12 **BIM Specialist:** At least ten (10) years of international experience in design and construction of infrastructural works, out of which at least 7 (seven) years in implementation of BIM environment in designing and construction management of projects of similar nature, scale and complexity. S/he shall lead a team of engineers and shall be responsible for managing the design activities (specially design coordination) and tracking the performance during works execution towards the full application of the BIM. Moreover, s/he will be tasked to plan and deliver capacity building training sessions for the Client's staff in respect to application of BIM technology. Experience of working for at least 5 (five) years in countries with similar conditions. Fluency in English language is mandatory.

*Educational Qualification:* Shall be a qualified Architect/Civil Engineer, preferably with master's degree in civil engineering/architecture/construction management or relevant subject



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(professional qualification recognized internationally). Internationally recognized BIM Certifications will be preferred;

**1.13 Materials Engineer:** At least 15 (fifteen) years of experience in civil engineering works and relevant specifications, out of which at least 10 (ten) years as materials engineer in road/urban road works. Hers/his duties shall include, but not be limited to: scrutinize documents for imported materials or manufactured items to ensure compliance with specifications, test and record results on standard forms showing exact location of the materials in the works and their origin, certification of all materials to be used in the works in terms of quality and quantity. S/he shall also be in charge of all materials to be incorporated into the works, as well as utilization of material sites and waste deposit sites. S/he shall as well carry out tests during execution and on completed works in order to check compliance with specification requirements of the works operations after the materials have been placed in the field.

*Educational Qualification:* Shall be a qualified Civil/Materials Engineer (professional qualification recognized internationally);

**1.14 Drainage Engineer:** At least fifteen (15) years of professional experience in design and supervision of urban road drainage works. S/he must be well acquainted with the innovative drainage design practices in similar projects and demonstrate proven skill in modelling techniques in drainage design. S/he shall be responsible for the design and supervision of the drainage system in the project.

*Educational Qualification:* Shall be a qualified Civil Engineer (professional qualification recognized internationally);

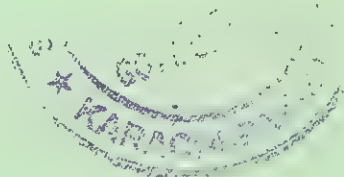
**1.15 Geotechnical Engineer:** At least fifteen (15) years of professional experience in design and supervision of geotechnical works specially on infrastructure development works (roads, bridges etc.). S/he will oversee geotechnical aspects of the design and construction and shall work closely with the Structural, and Pavement Design engineers and provide inputs on geotechnical matters.

*Educational Qualification:* Shall be a qualified Civil Engineer, preferably with master's degree in civil/geotechnical engineering or relevant subject (professional qualification recognized internationally);

**1.16 Utilities Engineer:** At least 10 (ten) years of professional experience in design and supervision of utilities works. S/he shall work closely with the road/BRT design engineers and shall be responsible of utilities design and all operations on utilities during construction.

*Educational Qualification:* Shall preferably possess a Civil/Materials Engineer degree or relevant certification in the field of civil works (professional qualification recognized internationally);

**1.17 2 (Two) Quantity Surveyors:** At least ten (10) years of experience in quantity surveying for civil engineering projects (road, bridges, buildings etc.), out of which at least seven (7) years for road projects. They will oversee initial re-measuring of contract works, measuring quantities of work done and certify completed quantities and for checking







the accuracy of the estimated remaining quantities which should be included in the contractor's program of completion.

*Educational Qualification:* Shall hold a BTech (Civil) or Diploma of Associate Engineering (Civil) from a recognized institute;

**1.18 Traffic Safety Engineer:** At least fifteen (15) years of experience in the traffic and road safety aspects in design and supervision of urban road / transit works. S/he will oversee traffic safety measures for the design stage and implementation of all traffic safety measures during construction. S/he will also oversee traffic management during construction, including the review and approval of the Contractors' traffic management plans and following up its implementation. S/he will work in close cooperation and under guidance of Senior Traffic Engineer.

*Educational Qualification:* Shall be a qualified Civil/Transportation Engineer, preferably with master's degree in civil/transportation engineering with road safety credentials and professional qualification recognized internationally;

**1.19 Environmental Safeguards Specialist:** At least fifteen (15) years of experience in environmental management and monitoring, out of which at least ten (10) years in urban road/transit construction projects. S/he will oversee all environmental SG related activities and aspects of the design, and implementation and supervision of the environmental mitigation measures in accordance to GoS and WB policies, guidelines and procedures. These include but are not limited to: impact assessment, socioeconomic surveys, census, conducting meaning consultations, reporting, maintaining liaison with the Client / other key stakeholders. S/he will, jointly with the Social Safeguards Specialist and Occupational Health and Safety (OHS) Specialist assist in resolution of relevant complaints during project implementation. In addition, the Consulting team will designate appropriate staff (preferably site engineer) as Environmental Focal Person at each site to monitor and ensure SG compliance at field/site level.

*Educational Qualification:* Shall be a qualified civil/environmental engineer, preferably with master's degree in civil/environmental engineering or relevant subject (professional qualification recognized internationally);

**1.20 Social Safeguards Specialist (Resettlement Expert):** At least ten (10) years of experience in the social issues, out of which at least seven (7) years in urban road/transit construction projects. S/he will be in charge of all social aspects of the works, and implementation of social mitigation measures. S/he will monitor all the social SG related activities and aspects of the design and compliance requirements in accordance with applicable GoS and WB policies and procedures related to resettlement and grievance management. These include but are not limited to: impact assessment, socioeconomic surveys, census, conducting meaning consultations, reporting, maintaining liaison with the Client / other key stakeholders S/he will, jointly work with the Environmental Safeguards Specialist and Occupational Health and Safety (OHS) Specialist, during project implementation. In addition, the Consulting team will designate appropriate staff (preferably site engineer) as Social Focal Person at each site to monitor and ensure SG compliance at field/site level





*Educational Qualification:* Shall be qualified in Social Sciences, preferably with master's degree in social sciences or relevant subject (professional qualification recognized internationally);

1.21 **Project Controls Expert:** At least fifteen (15) years of experience in similar complexity and budget projects. S/he must possess knowledge to work on internationally recognized project controls software and have a good handle of project reporting methods. S/he will assist the CRE and other key staff in project controlling activities, and assessment and mitigation of project risks associated with cost, schedule or scope change.

*Educational Qualification:* Shall be a qualified Engineer, preferably with master's degree in construction management or relevant subject (professional qualification recognized internationally);

1.22 **Electrical Engineer:** At least ten (10) years of professional experience of working on projects of similar nature, scale and complexity. S/he shall be responsible for the design and supervision of all electrical engineering works for the project including but not limited to the street lightning, coordination with the ITS consultant, supply of electricity to stations/depots, with due consideration to the renewable energy and innovative practices adopted internationally.

*Educational Qualification:* Shall be a qualified Electrical Engineer (professional qualification recognized internationally);

1.23 **Mechanical Engineer:** At least ten (10) years of professional experience of working on projects of similar nature, scale and complexity. S/he shall be responsible for the design and supervision of all mechanical engineering related works for the project including but not limited to the stations, depots, pedestrian bridges, management of drainage in underground structures, lifts & escalators, with due consideration to the innovative practices adopted in projects internationally.

*Educational Qualification:* Shall be a qualified Mechanical Engineer (professional qualification recognized internationally);

1.24 **HVAC (Heating, Ventilation and Air Conditioning) Engineer:** At least ten (10) years of professional experience of working on projects of similar nature, scale and complexity. S/he shall be responsible for the design and supervision of all HVAC equipment and facilities related works for the project including but not limited to the stations, depots, pedestrian bridges, lifts & escalators, with due consideration to the innovative practices adopted in projects internationally.

*Educational Qualification:* Shall be a qualified Mechanical Engineer (professional qualification recognized internationally);

1.25 **6 (six) Site inspectors:** At least ten (10) years of professional experience of working on projects of similar nature, scale and complexity. They shall provide assistance and support to SRE and Assistant Resident Engineers, and also monitor and report to corresponding engineers in respect to execution of: all civil works, works organized in shifts, key construction activities (scaffolding, reinforcing, concreting, paving, drainage, etc.), materials sampling and testing, measurements.







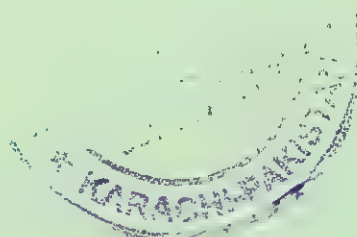
**Educational Qualification:** Shall be a qualified Civil Engineer (professional qualification recognized internationally) with minimum B.Tech degree from an accredited university.

Although indicative, the Consultants are encouraged to maintain and/or improve the non-key staff requirements. Proposals with staffing variations of non-key positions than the above specified must provide suitable justification for the staffing replacing arrangement. The Consultants are also expected to maintain a minimum twenty number of trainee professionals (fresh graduates from local universities accredited by HEC Pakistan).

In addition to the personnel designated above, the Consultant shall determine the additional technical staff requirements for the assignment (engineers, procurement assistants, contract management assistants, quantity surveyors, utility coordinators, surveyors, laboratory technicians, etc.) to assist with *simultaneous* preparation of Detailed Design for Yellow BRT Corridor and off-corridors, and on-site supervision of the works (considering the project completion timelines and expected start of construction of the 1 km bridge under Design-Build contract), as well as administrative and support staff. All costs for the additional technical staff, administrative and support staff shall be included in the rates of non-key staff.

Some *important considerations* are as follow:

- (i) Senior Urban Road & BRT System Expert/Team Leader Design, Senior BRT System Design Expert, Senior Procurement Specialist, Chief Resident Engineer/Team Leader Construction and Senior Contract Management Specialist need to be from the **Lead firm and based in Karachi** for minimum eighty percent (80%) of their required person months as mentioned in the Table 7.
- (ii) The Consultant must provide Curriculum Vitae (CV) and certified copies of highest education certificates for *all key staff* in the proposal, *including duration in person- months for which the staff will be deployed under the contract*.
- (iii) The Consultant is not required to submit CVs of non-key and additional staff within the proposal, but these personnel shall be subject to prior approval of the Client from start of services. Generally, the support technical staff should possess education relevant for the nominated position, have at least 5 (five) years of experience, out of which at least three (3) years in road/urban road and infrastructure projects and be fully available to the Consultant for the whole duration of the design and/or supervision services.
- (iv) The Consultant will provide a *backstopping pool of expatriate and/or local specialists* to cover special needs arising under such disciplines as geology, hydrology, geotechnical, structures, pavements, contract management, etc.
- (v) The Consultant should allow for a maximum of 6 (*six*) *person-months during design preparation* and 18 (*eighteen*) *person-months backstopping during supervision*, but CVs are not required to be submitted with the proposal. These personnel shall be subject to prior approval of the Client before deployment.





- (vi) Backstopping specialists are considered as non-key staff and will be paid according to time spent at the field. These specialists should have at least 20 (twenty) years of experience, out of which at least 10 (ten) years in urban road/mass transit and infrastructure construction projects. The Consultant's supervision staff shall be available to move to the works site with the commencement of the works contract(s), while the part of the team responsible for design and procurement shall be available from the commencement of services.

*Points of Discussion as agreed during the Negotiations: During the negotiations it was discussed that the social charges (mentioned in the breakdown of fixed monthly remunerations indicated in the Model Form, in financial proposal) shall be entitled to all the proposed employees of the Consultants on the Project. The Consultant agreed to this.*







## IMPLEMENTATION ARRANGEMENTS

### DATA, SERVICES AND FACILITIES TO BE PROVIDED BY THE CLIENT

The Client has constituted a PMT for liaison, coordination and guidance to the Consultant for the assignment. PMT will provide all possible assistance and information as may be reasonably requested by the Consultant to carry out his obligations.

PMT, consisting of appropriate experts headed by a Project Director and to be assisted by the various Directorates of the SMTA, will have the overall responsibility for implementing the KMP. The PMT is being staffed by: a project director, a deputy project director, liaison officer, civil engineers, a mass transit specialist, a traffic engineer, a financial management specialist, a fully accredited accountant, a procurement and contract management specialist, an environmental specialist, a social development specialist, a gender specialist and a communication specialist.

Through the construction contracts, the Consultant shall be provided with:

- (i) Fully furnished and equipped site office containers at each construction site (works contract), for members of the supervision team, including maintenance, water, electricity, telecommunication services, high-band Internet connection, office supplies and consumables. Containers will comprise of at least 5 (five) working places and toilette facilities, and will be located conveniently within the site to serve as field offices for members of the supervision team;
- (ii) Furnished laboratory, including surveying equipment, sampling equipment, laboratory equipment and accessories, maintenance and operation. Laboratory will be equipped for testing of raw materials and products for soils, asphalt and concrete. All equipment has to be accredited according to local rules. Laboratory will be conveniently located at the site and will be available for performance of the contractor's preliminary and ongoing testing, as well as control testing by the Consultant. The Consultant does not have to provide his own staff for laboratory (contractor's responsibility), but the Consultant must have his own staff to monitor, check and validate the testing.

After commencement of the works contract, the Client will organize through the construction contract, maintaining and cleaning for the above listed facilities of the Consultant. This includes provision of all necessary cleaning equipment, rubbish bins and materials as well as provision of liquid soap for hand washing, dish washing, etc., lavatory cleaner and brushes, toilet paper, daily provision of clean hand towels, fly spray, extermination of any rodents and any other such incidentals as the Consultant may reasonably require for maintaining decent conditions for the operations of the offices. Eventual repair works for the facilities are also included.

For the whole duration of the services, the Consultant shall plan and cost support of its team, by providing: fully furnished office space (apart from the above listed facilities at sites and laboratory) either close to the site or to the PMT office (also including a conference room with at least 25 (twenty-five) seating places), equipment, computer hardware



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and software, communication, office stationary, printing and copying facilities, local and international transport, housing, etc.

The Client will assist the Consultant to:

- (i) Obtain formal consent from outside authorities or persons having rights or powers in connection with the works or the site thereof;
- (ii) Obtain ministerial orders, sanctions, licenses and permits in connection with the works;
- (iii) Register any non-national senior staff with the relevant engineers' board (or similar), if required.

*Points of Discussion as agreed during the Negotiations: Referring to Reponse # 08 (in the responses issued on 21 December 2020) the Consultant needs to arrange their own transportation including vehicle maintenance, fuel, drivers, etc. and the cost needs to be included within the reimbursement cost of the consultant's proposal. During the negotiations, it was agreed that the possibility to obtain these vehicles on lease terms rather than rental (as the case is in the financial proposal) will be explored and these vehicles be handed over to the Client at the end of project duration. It was also agreed that given this option is utilized, any additional financial implications to the proposed rental costs will be reimbursed to the Consultant.*

#### **DURATION OF SERVICES**

The engagement shall be deemed to have started on execution of the agreement and shall terminate at the completion of the DNP when the final inspection of all works has been done and the Consultant has fulfilled all his obligations, whatever comes later.

Estimated duration of the services is **60 (sixty) months**, which comprise of **12 (twelve) months of Detailed Design preparation (including review and revision) and procurement phase**, **36 (thirty-six) months during construction** and **12 (twelve) months after completion of works**, i.e. during the DNP with the Consultant's intermittent input to check continuous quality and actual performance of the works.

In view of the tasks to be achieved, it is anticipated that staff input will be **203 key staff months**, as well as **931 non-key staff months** (Table 7).

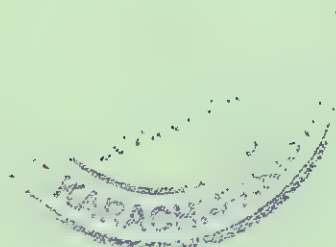


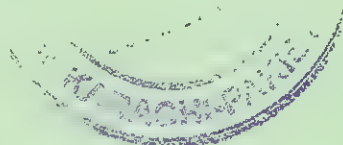




Table 7 Estimated staff input [person months]

TEAM MEMBER	Indicative person-months		
	Phase 1 Detail Design & Procurement Support	Phase 2 - Construction Supervision	Phase 2 - DNP
<b>A. Key staff</b>			
Senior Urban Road & BRT System Expert / Team Leader Design (1)	12	3	-
Senior BRT Design Expert (1)	12	3	-
Senior Structural / Bridge Design Engineer (1)	9	3	-
Senior Pavement Design Engineers (1)	6	6	-
Senior Procurement Specialist (1)	9	-	-
Chief Resident Engineer / Team Leader Construction	-	30	6
Resident Engineers (2)	-	66	9
Senior Contract Management Specialist (1)	2	24	3
<b>Sub-total key staff (A)</b>	<b>50</b>	<b>135</b>	<b>18</b>
<b>B. Non-Key staff</b>			
Project Manager (1)	6	12	6
Urban Space Management Specialist (1)	6	-	-
Architect (1)	6	12	-
Senior Traffic Engineer (1)	9	9	-
BIM Specialist (1)	9	18	2
OHS Specialist (1)	2	30	-
Assistant Resident Engineers (6)	-	216	12
Materials Engineer (1)	-	30	-
Drainage Engineer (1)	6	12	-
Geotechnical Engineer (1)	6	18	-
Utilities Engineer (1)	6	12	-
Quantity Surveyors (2)	6	60	-
Traffic Safety Engineer (1)	6	30	-
Environmental Safeguards Specialist (1)	5	30	-
Social Safeguard Specialist (1)	5	30	-
Project Controls Expert (1)	3	30	-
Electrical Engineers (1)	3	12	2
Mechanical Engineers (1)	3	12	2
HVAC Engineer (1)	3	12	2
NMT Specialist (1)	5	3	-
Site Inspectors (6)	-	216	6
<b>Sub-total non-key staff (B)</b>	<b>95</b>	<b>804</b>	<b>32</b>
<b>Total key and non-key staff (A+B)</b>	<b>145</b>	<b>939</b>	<b>50</b>

The Consultant should consider the prospective peaks of activities and ensure the adequacy of staffing levels during such periods, and, at the same time, periods with low productivity levels should not be un-economically over-staffed. The objective is that the Consultant should propose to assign team that will be best suited to the methodology of its



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design services, supervision and management systems. The Consultant should also consider the added value that will be provided by its organization.

Details of staffing levels will be agreed through the course of the assignment with the Client depending on the services and works currently in progress. The Consultant has to perform this assignment mainly in the field in *Karachi*. However, some work of the Consultant during preparation of Detailed Design and procurement assistance may be undertaken at their home office with the *consent* of the Client.

It should be noted that the Consultant shall provide its services during construction in the field according to the contractor's work schedule, which may include work during *seven* (7) days a week. *Nightshifts* may be expected as well. The Consultant will not be entitled to any overtime payment.

*Points of Discussion as agreed during the Negotiations:*

The Consultant mentioned that the Phase 2 time period shall be 48 calendar months, divided into overall construction duration of 36 calendar months and DNP of 12 calendar months. The 36 calendar months construction duration is broken down as follows:

- o Package 1: Depot 1: 12 calendar months
- o Package 2: Depot 2: 15 calendar months
- o Package 3: Road corridor & BRT infrastructure (segments 0, 1 and 2): 28.5 calendar months
- o Package 4: 1 km Bridge (segment 3): 24 calendar months
- o Package 5: Road corridor & BRT infrastructure (segments 5, 6 and 7): 24 calendar months
- Package 6: Off-corridor improvements: 20 calendar months.

The Consultant reconfirm that their construction supervision deployment and associated remuneration have been estimated based on the above assumption. Any deviation to the above assumptions will be dealt in accordance with the Contract.

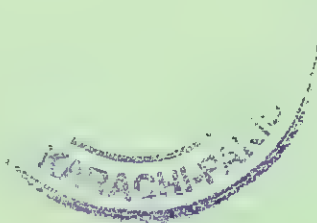
*The staff input for the Consultant's personnel estimated in the issued TOR was based on the total duration of the construction period i.e. 36 months and DNP (12 months) and is **not** linked to the specific work packages. Therefore, the Consultant's breakdown of construction period shall not be used for any contract related payments and Consultant shall be paid for time actually spent by each expert in the performance of services post commencement pursuant to GCC, Sub Clause 43.1.*

*In case of additional work beyond the scope of services or exceeding the contract ceiling, if made at some point, all further payments will be made after a signed amendment to the contract and in accordance with the already agreed unit rates for remuneration.*

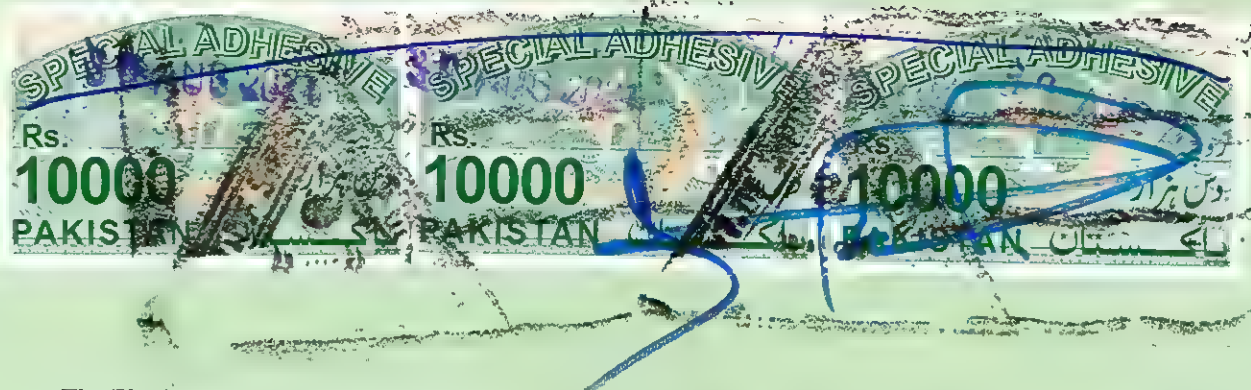
*Please note that from the start of the construction period, the Consultant is obliged to keep records for engagement of its staff and these records/timesheets, certified by the PMT, will form the basis to pay the staff remuneration.*

*The Consultant is also expected to include status of mobilization of all the consultant staff rendering services in the required "Monthly Progress Report" under the Contract.*

*It is also anticipated that the Consultants will plan the entire project with efficient and economical resource mobilization considering the timelines.*







## CODE OF CONDUCT

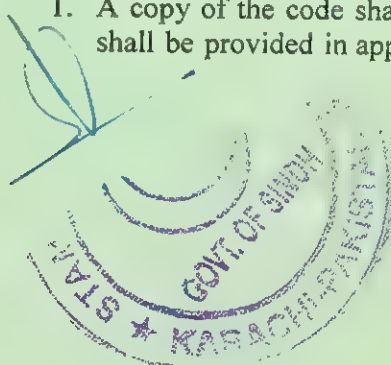
The Consultant shall submit the Code of Conduct that will apply to the Consultant's Key Experts and Non-Key Experts, to ensure compliance with good Environmental, Social, Health and Safety (ESHS) practice. In addition, the Consultant shall submit an outline of how the Code of Conduct will be implemented. The successful Consultant shall be required to implement the agreed Code of Conduct upon contract award. The issues to be addressed in the Code of Conduct include:

- a. Compliance with WB Safeguard Policies, WBG EHS guidelines, applicable laws, rules, and regulations
- b. Compliance with applicable health and safety requirements to protect the local community (including vulnerable and disadvantaged groups), the Consultant's Experts, the Client's personnel, and the Contractor's personnel, including sub-contractors and day workers (including wearing prescribed personal protective equipment, preventing avoidable accidents and a duty to report conditions or practices that pose a safety hazard or threaten the environment)
- c. The use of illegal substances
- d. Non-Discrimination in dealing with the local community (including vulnerable and disadvantaged groups), the Consultant's Experts, the Client's personnel, and the Contractor's personnel, including sub-contractors and day workers (for example, on the basis of family status, ethnicity, race, gender, religion, language, marital status, age, disability (physical and mental), sexual orientation, gender identity, political conviction or social, civic, or health status)
- e. Interactions with the local community(ies), members of the local community (ies), and any affected person(s) (for example to convey an attitude of respect, including to their culture and traditions)
- f. Sexual harassment (for example to prohibit use of language or behavior, in particular towards women and/or children, that is inappropriate, harassing, abusive, sexually provocative, demeaning or culturally inappropriate)

The Code of Conduct should be written in plain language and signed by each Expert to indicate that they have:

- i. received a copy of the code;
- ii. had the code explained to them;
- iii. acknowledged that adherence to this Code of Conduct is a condition of employment; and
- iv. understood that violations of the Code can result in serious consequences, up to and including dismissal, or referral to legal authorities.

1. A copy of the code shall be displayed in the Engineer's office. It shall be provided in appropriate languages.



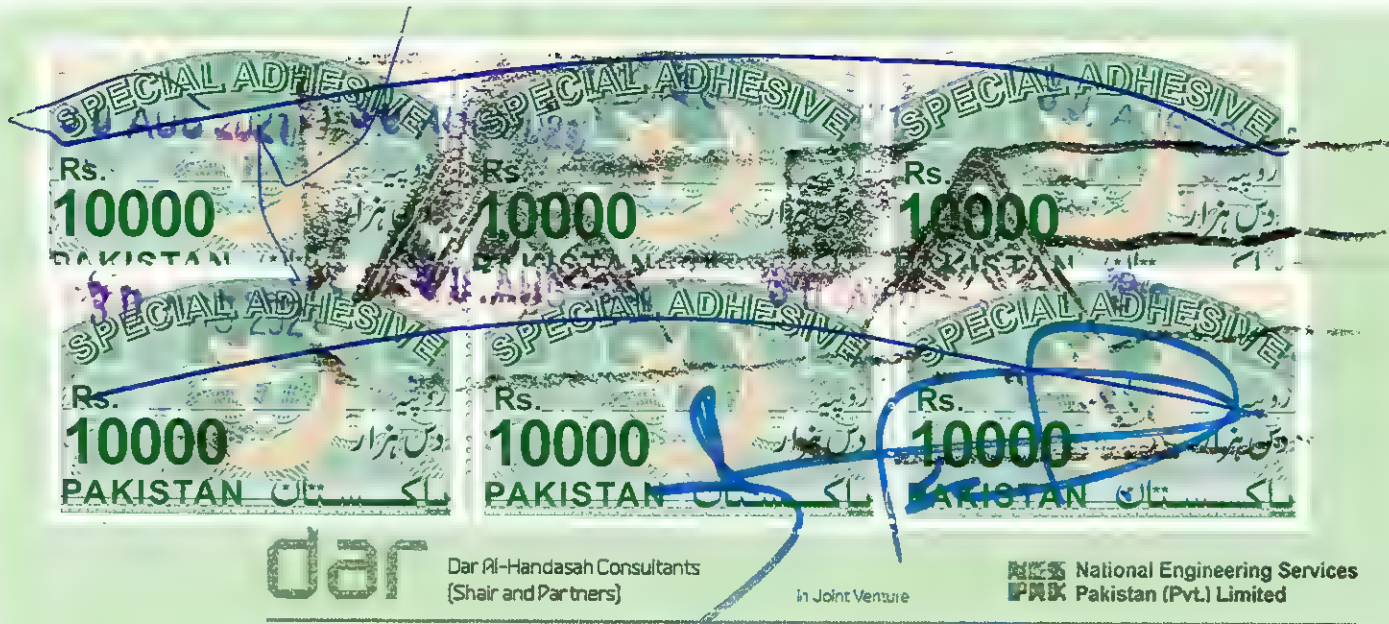


## APPENDIX B - KEY EXPERTS



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PP20981/3095

16<sup>th</sup> June 2021

**Project Director (Karachi Mobility Project)**

**Sindh Mass Transit Authority,**

**Transport & Mass Transit Department,**

**Government of Sindh**

House # D-43; Block 2; Scheme No. 5; Kehkashan, Clifton, Karachi, Pakistan

**Proposal for Consulting Services for Preparation of Detailed Design, Procurement Support and Construction Supervision for Karachi Mobility Project (Yellow BRT)**

Dear Sirs,

In reference to the RFP issued on the 6<sup>th</sup> of November 2020, Instructions to Consultants, section D Negotiations and Award, clauses 28.3 and 28.4, we, Dar Al-Handasah Consultants (Shair and Partners) - Dar - in JV with National Engineering Services - NESPAK – confirm the availability of our Key Experts listed below and which was included in the Proposal submitted on 15<sup>th</sup> January 2021, and readiness to support this Project as soon as we are requested to mobilize.

**Key Experts:**

Mr. Bahjat Ghandour	Senior Urban Road & BRT System Expert-Team Leader Design
Mr. Claudio Macedo	Senior Bus Rapid Transit System Design Expert
Mr. Gamal Helmy	Senior Structural/Bridge Engineer
Mr. Islam Mamdouh	Senior Pavement Engineer
Mr. Ibrahim Ahmed Hadad	Senior Procurement Specialist
Mr. Mohammad Khalil Ibrahim Kalloush	Chief Resident Engineer
Mr. Salahuddin Ahmed Shaikh	Resident Engineer-1
Mr. Israr Ullah Khan	Resident Engineer-2
Mr. Bilal Azam Noor	Senior Contract Management Specialist

Due to the circumstances imposed by the global Covid-19 pandemic, and in order to ensure the continued safety of both our clients and employees, the 20% allowance to work from home-office according to the issued RFP, may be utilized until the travel restrictions are relaxed

Yours faithfully

*Bassam Shakhshir*

**Bassam Shakhshir**

**Director of Operations**



**Manama** "Wind Tower", Office 5<sup>th</sup>, Building 403, Road 1705, Manama 317, P.O. Box 540<sup>th</sup>, Kingdom of Bahrain  
T: +973 1 7524562 | F: +973 1 7524562 | E: [enquiries@dar.com](mailto:enquiries@dar.com)  
C.R. No: 9200-1-1-B.S.C. Closed (Capital US\$: 27,000,000)

**JV Address** 1-C, Block N, Wodegar, Islamabad  
Land: 47/10 Pakistan

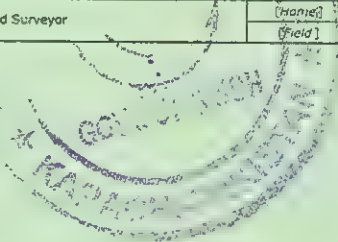


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FORM TECH-6: Team Composition, Assignment, and Key Experts' input Phase 2

		Team Composition (Monthly Salary and Duties) (Refer to TECH-5)						Team Input (in Months)		
		Position						Home	Field	Total
KEY EXPERTS										
K-1	Bahjat Ghandour	Senior Urban Road & BRT System Expert / Team Leader Design	[Home] [Field]	3 3				0 3	3	3
K-2	Claudio Macedo	Senior BRT Design Expert	[Home] [Field]	3 3				0 3	3	3
K-3	Gamal Helmy	Senior Structural / Bridge Design Engineer	[Home] [Field]	3 3				0 3	3	3
K-4	Islam Manadouh	Senior Pavement Design Engineers	[Home] [Field]	6 6				0 6	6	6
K-5	Mohamed Kefloush	Chief Resident Engineer / Team Leader Construction	[Home] [Field]	30 30		6 6		0 36	36	36
K-6	Salahuddin Ahmed Shaikh	Resident Engineer 1	[Home] [Field]	36 36		4.5 4.5		0 40.5	40.5	40.5
K-7	Israr Ullah Khan	Resident Engineer 2	[Home] [Field]	30 30		4.5 4.5		0 34.5	34.5	34.5
K-8	Bilal Azam	Senior Contract Management Specialist	[Home] [Field]	24 24		3 3		0 27	27	27
Subtotal								159	153	153
NON-KEY EXPERTS										
N-1	TBD	Project Manager	[Home] [Field]	12 12		6 6		0 18	18	18
N-2	TBD	Sr. Geotechnical Engineer	[Home] [Field]	27 27				0 27	27	27
N-3	TBD	Sr. Structure Engineer (Steel)	[Home] [Field]	28 28				0 28	28	28
N-4	TBD	Sr. Structure Engineer (Concrete)	[Home] [Field]	23 23				0 23	23	23
N-5	TBD	Sr. Structure Engineer (Bridges)	[Home] [Field]	24 24				0 24	24	24
N-6	TBD	Sr. Roads Engineer / Traffic Safety	[Home] [Field]	25 25				0 25	25	25
N-7	TBD	Sr. Materials Engineer	[Home] [Field]	29 29				0 29	29	29
N-8	TBD	Sr. Utilities Engineer	[Home] [Field]	23 23				0 23	23	23
N-9	TBD	Sr. Architect	[Home] [Field]	18 18				0 18	18	18
N-10	TBD	Sr. Electrical Engineer	[Home] [Field]	27 27		2 2		0 29	29	29
N-11	TBD	Sr. Mechanical Engineer	[Home] [Field]	27 27		2 2		0 29	29	29
N-12	TBD	Sr. Landscape Engineer	[Home] [Field]	10.5 10.5				0 10.5	10.5	10.5
N-13	TBD	BTM Specialist	[Home] [Field]	21 21				0 21	21	21
N-14	TBD	Sr. Planning Engineer	[Home] [Field]	32.25 32.25				0 32.25	32.25	32.25
N-15	TBD	Planning Engineer	[Home] [Field]	20 20				0 20	20	20
N-16	TBD	Social Safeguard Specialist	[Home] [Field]	20 20				0 20	20	20
N-17	TBD	Sr. Quantity Surveyor	[Home] [Field]	31.75 31.75		2 2		0 33.75	33.75	33.75
N-18	TBD	Quantity Surveyor 1	[Home] [Field]	20 20				0 20	20	20
N-19	TBD	Quantity Surveyor 2	[Home] [Field]	27 27				0 27	27	27
N-20	TBD	Sr. HSE Engineer	[Home] [Field]	29.25 29.25				0 29.25	29.25	29.25
N-21	TBD	HSE Officer 1	[Home] [Field]	29 29				0 29	29	29
N-22	TBD	HSE Officer 2	[Home] [Field]	16 16				0 16	16	16
N-23	TBD	NMT Specialist	[Home] [Field]	3 3				0 3	3	3
N-24	TBD	Document Controller	[Home] [Field]	36 36		2 2		0 38	38	38
N-25	TBD	Secretary	[Home] [Field]	28 28				0 28	28	28
N-26	TBD	ARE/ Structure Engineer	[Home] [Field]	4 4				0 4	4	4
N-27	TBD	Architect	[Home] [Field]	3 3				0 3	3	3
N-28	TBD	Mechanical Engineer	[Home] [Field]	3 3				0 3	3	3
N-29	TBD	Electrical Engineer	[Home] [Field]	3 3				0 3	3	3
N-30	TBD	Land Surveyor	[Home] [Field]	6 6				0 6	6	6



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Full time input  
Part time input





Form TECH-6  
(CONTINUED)  
CURRICULUM VITAE (CV)

Position Title and No. Senior Urban Road and Bus Rapid Transit System Expert - Team Leader  
Name of Expert: BAHJAT A. GHANDOUR  
Date of Birth: 22/10/1957  
Country of Citizenship/Residence Lebanese, Turkish / TURKEY

Education:

BSc, Civil Engineering, Kansas State University, USA, 1980

Employment record relevant to the assignment:

Period	Employing Organisation and your title/position. Contact info for references	Country	Summary of activities performed relevant to the Assignment
1988 to date	Dar Al-Handasah Consultants (Shair and Partners) Senior Transportation Engineer/Head of Department	Turkey	Responsible for the management of all project activities
1984 - 1988	Dar Al-Handasah Consultants (Shair and Partners) Civil Engineer	Turkey	In charge of supervising the implementation of a construction management programme, including computerised monitoring and control of construction activities and resources using commercial software and in-house programmes
1980 - 1984	Dar Al-Handasah Consultants (Shair and Partners) Civil Engineer	Turkey	Participated in the design; development of computer models; and preparation of Master Plans, tender documents, cost estimates and bills of quantities

Membership in Professional Associations and Publications:

Union of Chambers of Turkish Engineers and Architects (TMMOB), since 2005. Registration No.63323

Language Skills	Reading	Writing	Understanding
Arabic	Excellent	Excellent	Excellent
English	Excellent	Excellent	Excellent
Turkish	Good	Good	Good

Adequacy for the Assignment:

Detailed Tasks Assigned: Refer to TECH-5 and TECH-6  
Reference to Prior Work/Assignments that Best Illustrates Capability to Handle the Assigned Tasks

Since 1980 With Dar Al-Handasah Consultants (Shair and Partners), Transportation Dept.

1988 to date Senior Transportation Engineer/Head of Department

Project Manager

Responsible for the management of all project activities for the following projects:

- Rehabilitation of Luanda - Lobito National Road (EN100), Angola. Feasibility study, detailed design and tender documents for the rehabilitation of 6 sections of the existing National Highway EN100, connecting Luanda and Benguela. The sections extend over 395 km between Cabo Ledo and Lobito.
- Assir - Jizan Road, Saudi Arabia. Detailed design and tender documents for a 125 km 2-lane dual carriageway main road (design speed: 90 km/h) through a very rough terrain especially in the first 30 km (mainly escarpment) thus requiring 11 twin tunnels (total length of 4,500 m), 55 bridges (total length of 8,800 m) and 10 interchanges. In the locations of bridges and tunnels the road is of 3 lanes in each direction. The design also covered all pavement works, and signing and marking schemes.



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BAHJAT A. CHANDOUR

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- 12 of July Road, Angola. Detailed design, tender documents and supervision of construction for a 1 km long, 2-way road interconnecting N'Gola - Kiluanje Road and with Lueji - Anconda Road. The scope covers parking areas and sidewalk on both sides of the road, drainage, signing and marking, street lighting and other infrastructure services.
- Infrastructure Consultancy Services for the Energy Centre and Car-Park at Hamad Bin Khalifa Medical City, Qatar. Detailed design and tender documents for all infrastructure components, including accesses, internal roads, parking areas, etc.
- **King Saud University Internal Transit System, Saudi Arabia.** Feasibility studies, detailed design of civil works and utilities diversions, concept and functional design of the transit system, and preparation of tender documents for the East Loop (Line 1) of a total length of 9.5 km with 22 stops/stations, and West Loop (Line 2) of a total length of 7.2 km with 19 stops/stations. Both lines share a common section of 2.7 km that serves 10 stops/stations. Total number of stations: 31.
- **Rehabilitation of Luanda Roads - Phase 3, Angola.** Detailed design, tender documents and supervision of site works for the reconstruction of three urban roads in Luanda namely, Quinta Avenida Road, a 2.25 km long single carriageway with a 3.5 m wide lane in each direction, 2.5 m wide right side parallel parking lane in addition to a right-in right-out junction with Estrada de Catete Road, an at-grade railway crossing and a roundabout towards the northern end of the alignment; Tourada-Cassequel-Van-Duném Loy Road, a 4.5 km long single carriageway with a 3.5 m wide lane in each direction, 2.5 m wide right side/left side parallel parking lanes, 5.6 m wide right side angular parking in addition to a right-in right-out junctions at both ends of the alignment and three roundabouts in between; and Van-Duném Loy-Calemba II Road, a 3.5 km long single carriageway with a 3.5 m wide in each direction, and right-in right-out junctions on both ends.
- Rehabilitation of Tunguu - Makunduchi, Fumba - Kisauni and Mkoani - Chake Roads, Tanzania. Feasibility studies, detailed design and tender documents for the rehabilitation and upgrading (including a dualisation option) of three single carriageway roads of a total length of 103.5 km.
- Al Khail Mall at Jumeirah Village Triangle - Access Roads and Bridges, United Arab Emirates. Detailed design, tender documents and supervision of construction for 4 flyovers of a total length of 880 m with a total ramp length of 345 m and 2,251 m of surface connecting roads to Al Khail Mall.
- Versova Bandra Sea Link (VBSL), India. Detailed design and tender documents for a sea link consisting of 9.6 km long, dual 4-lane carriageway main bridge; one cable-stayed bridge (0.3 km long, dual 4-lane carriageway); three balanced cantilever bridges (0.1 km long, dual 4-lane carriageway each); Bandra Connector dual 2-lane carriageway with 1.17 km long trumpet interchange; Otters Club Connector dual 3-lane carriageway with 1.8 km long trumpet interchange; Juhu Koliwada Connector dual 2-lane carriageway with 2.8 km long trumpet interchange; and Versova Connector dual 3-lane carriageway with a partial 1.8 km long trumpet interchange for future extension of the main bridge. The scope covered a total of 5 toll plazas and all related infrastructure services.
- Bridges along Lagos Airport Road Project, Nigeria. Preliminary design, detailed design and tender documents for a new 600 m long alignment of which 75 m are on bridge, a U-Turn bridge before the junction of Murtala Muhammed Airport Road and Apapa Oshodi - Oworonshoki Expressway, and a 1 km long flyover connecting the Airport Road to Abeokuta Expressway. The bridges consist of dual carriageways with 2 lanes in each direction. The scope also includes the re-arrangement of 4 at-grade crossings all to be signalised, 2 culverts, bus stop, street lighting and MSE wall at bridge ramps.
- Consultancy Services for Pen Cinema Bridge, Nigeria. Detailed design and tender documents for a 1.75 km long alignment with 400 m on bridge, 2-lane dual carriageway bridge along Agunbiade Street/Oba Ogunji Road to cross an existing railway line as well as the Old Abeokuta and Iju Ishaga Roads, with a right ramp joining old Abeokuta Road. The scope also includes the re-arrangement and signalisation of 4 at-grade crossings, bus stop, street lighting, MSE walls at bridge ramps and the re-alignment of part of Old Abeokuta road (2-lane dual carriageway).
- Kitamba - Soyo Road, Angola. Detailed design and tender documents for a single carriageway road with a length of 3.15 km and a width of 8.2 m, connecting Soyo City to an under construction power plant.



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BAHJAT A. GHANDOUR

Page 3

- AJAH Flyover, Nigeria. Preliminary design, advanced concept design, final design, and tender documents for a 4-lane flyover with approach roads at AJAH Roundabout on Epe - Lekki Expressway, including road geometric design, junction improvement, traffic signal design, utility disposition, etc.
- Kima Kienda Road, Angola. Detailed design of a 3 km, 3-lane one way road part of the access roads to the new airport in Luanda. The road section comprises a dedicated truck lane, parking lane, and 2 lanes for light vehicles. The scope covers utilities disposition, pavement design, culverts and drainage system and street lighting in addition to ramp/bridge overpassing the Kima Kienda Road to allow direct access from Kifangondo - Cacucaco Highway to Lueji Anconda Road.

Responsible for the geometric design, alignment selection, and design of roadworks, including coordination with other disciplines, preparation of specifications, cost estimates, bills of quantities and other technical documents, for the following projects:

- **Project Management for Riyadh Transit System, Saudi Arabia.** Project and contract management, and construction supervision for 3 dedicated BRT lines of total length of 67 km with 53 lateral-platform stations, 27 pedestrian bridges, 3 BRT Terminus stations, 4 park-and-ride facilities, 19 Community Bus Stop (CBS) lines - 977 CBS stops, feeder bus system connecting over 58 feeder lines to the Public Transport System - 1,753 feeder stops, Transportation Control Centre (TCC) for the complete transport network (including the metro system), and an Intelligent Transport System (ITS), comprising Automated Vehicle Management, Real Time Passenger Information, Automated Fare Collection System, Bus Priority at Intersections, and Journey Planner System.
- **Streetscape and Station Design for Riyadh Bus Rapid Transit (BRT) Network, Saudi Arabia.** Detailed designs for the streetscape works (hard and soft) of sidewalks along entire BRT corridors (65 km). Works include creating a pedestrian-friendly environment that is consistent with the vision of the new public transport system. The scope also include the design of 2 terminal stations, 55 in-line stations, 4 park-and-ride sites, 35 pedestrian bridges, 4 types of community bus shops, and 1 type of feeder bus stops.
- **Lubango Infrastructure Project, Angola.** Detailed design, tender documents and supervision of construction of a 100 km long urban road network with 2 lanes in each direction at a maximum width of 37 m, various infrastructure facilities in addition to the rehabilitation of existing bridges.
- **King Khaled International Airport Terminal Expansion and Refurbishment Programme - Terminals 3 and 4, Saudi Arabia.** Detailed design for the complete fit out of Terminal 3 and Terminal 4 including all civil works, finishes, MEP installations, escalators, and elevators in order to provide an enhanced level of service and expand the airport's processing capability. The main works comprise the complete fit out of Terminal 4, the complete fit out and expansion of the Terminal Link 3 departure level to provide a centralised check-in for Terminals 3 and 4, and the design and construction of additional mezzanine structural work inside the TL3 check-in hall (with all required fire, life, and safety aspects; elevators and escalators related to the metro connection; and finishes and MEP services). The project also includes the full upgrade, fit out, and conversion of Terminal 3 from a domestic to an international terminal. Moreover, the works include the replacement of existing escalators, elevators, and moving walkways throughout the Terminal 3 and Terminal Link 3 buildings; signage and wayfinding throughout Terminals 3 and 4 and Terminal Link building 3; a new roofing system for Terminals 3 and 4 and Terminal Link 3; a new film for existing glass panels on the landside of Terminals 3 and 4 and Terminal Link Building 3 to provide anti-shatter characteristics; and asbestos abatement in Terminal Link 3. Also, the project included upgrading of the existing signage systems and digital data system; and fitting out 550 m<sup>2</sup> of AOC Building at Terminal 5, including provision of furniture and equipment as well as constructing a ground services equipment and utility tunnel under Taxiway Tango.
- **Coca-Cola Arena, United Arab Emirates.** Detailed design (under BIM management) and supervision of construction for an indoor sports and multipurpose facility with a maximum capacity of 17,000 persons. The scope also covers external plaza, vehicular drop-off areas, surface car-parking for 1,300 vehicles, site accesses, and all infrastructure services.



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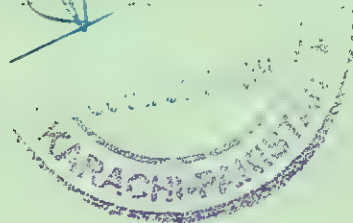




BAHJAT A. GHANDOUR

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- **Ultimate Expansion of Existing Passenger Terminal Building at Al Maktoum International (AMI), United Arab Emirates.** Detailed design, tender documents and supervision of construction for demolition, refurbishment and new construction works in order to bring the existing terminal building (5 million passengers/year) to a capacity that can enable Fly Dubai and other airliners to operate until the year 2022. This covers the modification and expansion of several parts of the departure areas, boarding lounges, arrival transfer area, arrival baggage reclaim area and landside car-park, including additions/modifications to the landside arrival and departure kerbs; addition of car-parking spaces; modifications to access roads, including road widening; and addition of traffic signals and road marking.
- **Zayed City Infrastructure, Abu Dhabi, United Arab Emirates.** Master plan review, preliminary and detailed designs, tender documents, and tender management for the infrastructure works in specific areas within the Zayed City. The scope included roads, traffic study (based on updates of the STEAM model) and road signage in addition to Stages 0, 1, 2 and 3 Road Safety Audits. A comprehensive public transport network was also planned with interfaces between the road network, light rail, metro, surface trams, high speed inter-city train and bus services.
- **Kifangondo/Funda Catete Corridor Infrastructure - Package 1, Angola.** Detailed design and tender documents for the upgrading of the existing road between Funda and Catete with a total length of 37.8 km in addition to the extension of Cacuaco - Kifangondo Road with a total length of 3.9 km. The right-of-way varies between 30 m and 40 m with 2 lanes in each direction, and parking spaces on both sides in addition to a 3 m reservation on either side for future utility corridor in the 40 m stretch. The scope also includes a comprehensive stormwater drainage system.
- **Madinah Hajj City, Saudi Arabia.** Master plan, detailed design (under BIM management), tender documents, tender management, and supervision of construction for a township on a 1.6 million m<sup>2</sup> site located 3 km southwest of the Holy Prophet's Mosque in Madinah, envisaged to accommodate 120,000 pilgrims. The project comprises 82 four-star and five-star hotel towers; office towers; commercial mall with a basement for 2,200 cars; 2 mosques with a total capacity of 18,000 worshipers; hospital complex; and elevated light rail transit and bus stations of built-up area of 184,000 m<sup>2</sup> with a peak capacity of 84,000 pilgrims/hour. The project is complete with an internal road network, all infrastructure utilities and landscaping.
- **King Abdul Aziz International Airport, Saudi Arabia.** Project management, design review (under GIS and according to LEED Silver requirements), construction management and supervision for a new airport based on a new phased master plan up to the year 2035 (Phase 1 up to 2019), comprising a new passenger terminal complex (810,000 m<sup>2</sup>) with a capacity of 30 million passengers per annum, 80 millions in ultimate phase, to replace the existing North and South Terminals; facility design to cater for both domestic and international operations, A380 aircrafts and full hub capability with latest systems and equipment; Haramain railway station and an automated passenger mover (APM) system; airfield upgrading, new parallel taxiways, 3 aprons, control tower and related systems; state-of-the-art navigation aid and communication installations, FIDS, departure control, life safety aspects and public address systems; Baggage Handling System (BHS), support buildings and facilities, earthworks, complete landscaping, major utility networks, new landside roads, tunnels and interchanges; programme coordination for related projects, including fuel tank farm, Jet fuel supply line from Aramco to the fuel farm, Jet fuel hydrant network, 3 Load Centers, 2 Data centers, 4 radio sites, UHF VHF transmission station Airside fire station and training center, crisis management center, meteorological observation building, tree nursery, Smart multistory Carpark, employees and VIP car park, capacity exceeding 22,000 cars, upgrading of existing terminals, sewage treatment plant; polishing plant; and planning and infrastructure and earthworks for a major landside commercial zone, complementing the main development.
- **Lagos Infrastructure Development (LID) Project, Nigeria.** Detailed design, tender documents, and supervision of construction for a mixed-use development comprising office facilities for 2,000 employees (43,270 m<sup>2</sup>), 200 residential apartments (60,000 m<sup>2</sup>), staff accommodation (12,000 m<sup>2</sup>), hotel (200 guestrooms, 20,000 m<sup>2</sup>), helipad, utility and service buildings, parking lots and car-park buildings (76,850 m<sup>2</sup>), and all infrastructure utilities (roads, pedestrian accesses, wet infrastructure, etc.). The scope also covered internal traffic modelling using VISUM.



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BAHJAT A. GHANDOUR

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As System Analyst (1990-1994), in charge of developing an interactive design software applications, and using various CAD techniques (MOSS, DCA and AutoCAD) in different design stages for the following project:

- Tarsus - Mersin Toll Motorway, Turkey. Fast-track design, hydrological surveys and construction documents for 74 km of motorway and link roads, with 7 grade-separated interchanges, 49 bridges (including 3 railway bridges), 154 box-culverts and 3 toll plazas.

As Civil Engineer/System Analyst (1988-1990), responsible for the general supervision and monitoring of construction works and resources using OPEN PLAN and PRIMAVERA software, and developing user-friendly programmes using Dbase, Fortran and Basic, for the following project:

- Tarsus - Gaziantep (TAG) Motorway, Turkey. Design review, preparation of tender and contract documents, supervision of construction and provision of specialist structural analysis and geotechnical services (high rock cuts, embankments on soft soils using vertical drains, reinforced earth slopes and micro-piling under caissons) for a 200 km, dual 3-lane toll motorway (of which 27 km in 4 lanes) and 58 km of dual 3-lane connection roads, including 12 bridges, 158 overpasses and underpasses, 12 viaducts (total length of 5,225 m), 2 special viaducts consisting of Steel box Girders and Steel Deck (total length of 1,225 m, spans up to 100.17 m and pier height up to 129.12 m), 17 interchanges, 5 twin-tube tunnels totalling 5.3 km, retaining structures with heights up to 37 m, toll plazas, 8 parking areas, 4 service areas and 5 maintenance areas. Traffic management and toll area supervision are centrally controlled through variable message signing, CCTV, and communication links to each toll booth. The tunnels are D-shaped 3 lane twin tunnels with 17.6 m diameter. The natural excavation for the tunnels was done through the standard drill and blast method. The NATM (New Austrian tunneling method) method was applied, which is also known as the sequential excavation method. In addition, the project includes escape tunnels for pedestrians with 25 m<sup>2</sup> cross section.

**1984 - 1988** Civil Engineer

In charge of supervising the implementation of a construction management programme, including computerised monitoring and control of construction activities and resources using commercial software and in-house programmes, for the following projects:

- Al-Qassim Road Network.
- Buraydah Ring Road, Saudi Arabia.

Site Engineer

In charge of the supervision of construction of all water-related appurtenances (pressure pipes, pumping stations, etc.) as applicable to the following project:

- Landscaping and Irrigation of Riyadh Ring Road, Saudi Arabia.

**1980 - 1984** Civil Engineer

Participated in the design; development of computer models; and preparation of Master Plans, tender documents, cost estimates and bills of quantities, as applicable for the following projects:

- Laminkoto - Passimus Road, Gambia.
- Al-Hassa Housing, Phase I, Jordan.
- Kassioun Development, Syria.
- Jordan Valley Irrigation Project, Stage II, Uncontrolled Flows, Jordan.

Expert's contact information: email: Bahjat.Ghandour@dar.com

Certification:

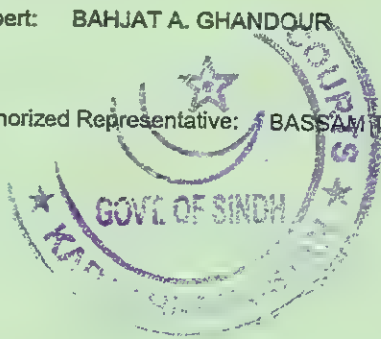
I, the undersigned, certify that to the best of my knowledge and belief, this CV correctly describes myself, my qualifications, and my experience, and I am available to undertake the assignment in case of an award. I understand that any misstatement or misrepresentation described herein may lead to my disqualification or dismissal by the Client, and/or sanctions by the Bank

Name of Expert: BAHJAT A. GHANDOUR

Date: 18/12/2020

Name of authorized Representative: BASSAM T. SHAKHSHIR

Date: 18/12/2020







(CONTINUED)  
CURRICULUM VITAE (CV)

Position Title and No. Senior Contract Management Specialist

Name of Expert: BILAL NOOR

Date of Birth: 04/12/1979

Country of Citizenship/Residence : Pakistani / U. A. E.

Education:

LLM (Master of Laws), Construction Law and Arbitration, Robert Gordon University, Aberdeen, Scotland, UK, 2016  
BE, Civil Engineering, University of Engineering and Technology, Taxila, Pakistan, 2002

Employment record relevant to the assignment:

Period	Employing Organisation and your title/position. Contact info for references	Country	Summary of activities performed relevant to the Assignment
2012 to date	Dar Al-Handasah Consultants (Shair and Partners) Senior Contract Management Specialist	United Arab Emirates / Oman	providing contractual analysis and support, and evaluating variations and claims, for Bibid Sur road, Dubai International Airport and Al Maktoum International (Dubai World Central - DWC) Expansion Programmes.
2011 - 2012	Saudi Binladin Group (SBG), Riyadh Senior Planning/Contracts Engineer	Saudi Arabia	Preparing contractor's claims, assisting in preparing contractor's payment invoices for King Abdullah Financial District Project, Riyadh, Saudi Arabia.
2006 - 2010	Haji Noor Engineers and Co. Project/Contracts Engineer	Pakistan	Preparing and presenting extension of time and prolongation cost claims. Preparing correspondences and maintaining records necessary, Negotiating price, terms and conditions for new and existing Contracts and preparing interim payments certificates for various projects in Pakistan
2002 - 2005	National Engineering Services of Pakistan (NESPAK) Planning/Civil Engineer	Pakistan	preparing prequalification documents, RFP, and contract documents, evaluating bid evaluation reports, and managing contract negotiation process

Membership in Professional Associations and Publications:

Pakistan Engineering Council, since 2002. Registration No. CIVIL/22812

Saudi Council of Engineers, since 2011. Registration No.100603

Language Skills	Reading	Writing	Understanding
English	Excellent	Excellent	Excellent
Urdu	Excellent	Excellent	Excellent

Adequacy for the Assignment:

Detailed Tasks Assigned:

Refer to TECH-5  
and TECH-6

Reference to Prior Work/Assignments that Best Illustrates Capability to Handle the Assigned Tasks

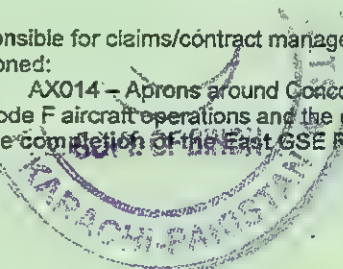
Since 2012 With Dar Al-Handasah Consultants (Shair and Partners), Project Management & Contracts Dept.

2012 to date Senior Contract Management Specialist

Projects:  
-Dubai International Airport Expansion Project, Dubai, UAE

Responsible for claims/contract management of multiple projects within, out of which the following are mentioned:

- AX014 – Aprons around Concourse 3; comprises realignment of Aircraft Stand Taxilane Zulu to suit Code F aircraft operations and the extension of Taxiway Juliet to the South and East of Concourse 3 and the completion of the East GSE Road and associated services and fencing Works.





(CONTINUED)  
CURRICULUM VITAE (CV)

Project Duration: 25 Months

- AX065 – Passenger Loading Bridges (PLBs) to Terminal 3, Concourse 2 and 3; Aprons around Concourse 3; comprises the design, manufacture, installation, start of & testing of Passenger loading Bridge (PLB) and Integrated Aircraft Stand System (IASS) at Terminal III, Concourse II and Concourse III.

- Project Duration: 78 Months

- SP500 – Concourse 4 & Associated Projects; comprises construction of a new concourse at Dubai International Airport (DIA), connected to Terminal 1 and serving foreign airlines, Stands and Apron works surrounding Concourse 4 (C4), upgrade of the existing Terminal 1 (T1), associated Support Facilities and the APM system and Stations connecting C4 and T1 along with associated civil works in addition to the demolition of the existing Support Facilities currently occupying the future Concourse 4 Apron areas.

- Project Duration: 32 Months

- AX466 – Superstructure, MEP, SAS, Finishes and Site Works for Terminal 2 Expansion; comprises Multiphase expansion and refurbishment of existing Terminal 2 facilities at the Dubai International Airport, Expansion to the western side of the existing Terminal 2 building to house new check in area, and departure BHS facility, External site work, Including reconfiguration of roadway leading to Terminal 2 departures, surface car park and landscaping, Refurbishment of existing Terminal 2 facilities including boarding lounges, departures hall, arrivals hall and customs/immigration facilities and additional retail concessions including food and beverage areas, Dubai Duty Free and VIP/CIP lounge.

- Project Duration: 24 Months

-Al Maktoum International Airport Construction Project, Dubai, UAE

Responsible for claims/contract management of multiple projects out of which following are some major projects:

- AMI250 – Al Maktoum International Airport Phase 1 – Construction Logistics Package; comprises 5 packages related to Roads and Utilities, Permanent and Temporary fence, Offices and other facility buildings, Site security and Temporary utilities (Interface Substations).

- Project Duration: 31 Months

- SP/DWC/723 – Passenger Terminal Building (PTB) – Airfield Works at Al Maktoum International Airport; comprises construction of 23 new stands, new/upgrade of GSE roads, two new Taxi lanes and their infrastructure works and Reconfiguration of Stands located at North, East, West and South Apron.

- Project Duration: 11 Months

-Dubai World Central Corporation (DWCC), Dubai South Projects, Dubai, UAE

Responsible for claims/contract management of the following project:

- RFP099/LD/17 – Construction of Irrigation & Fire Fighting Pumping Stations for DLC and Peripheral Road at Dubai Logistic District; comprises construction of seven pumping stations, water tanks, ancillary buildings, access roads, parking area, fencing, associated works and testing and commissioning of complete irrigation & firefighting network including existing network.

- Project Duration: 34 Months

-Dualization of Bidbid – Sur Road, Ministry of Transport & Communications, Oman

Responsible for claims/contract management of the following projects:

- Dualization of Bidbid – Sur Road (Package 1A); comprises construction of 40 KM of dual 3 lanes road and two major bypasses, earthworks including cut and fill in mountains, piling works and foundations, main and services roads, interchanges, underpasses bridges, wadi bridges, culverts, additional protection and cut slopes, retaining walls, geotechnical investigation, Storm water and drainage, Weigh Station, Permanent Traffic count stations, street lights, signing and road marking.

- Project Duration: 36 Months

- Dualization of Bidbid – Sur Road (Package 1B); comprises construction of 75 KM of dual 3 lanes road and one major bypass, nine interchanges, service road (around 50 KM), four crossings, one underpass and three overpasses.

- Project Duration: 36 Months

- Office & Residential Buildings for Public Authority for Social Insurance at Baushar, Oman

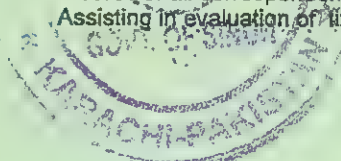
Responsible for claims/contract management of the following project:

- Mixed Use Development at Baushar, Muscat; comprises construction of basement levels, PASI HQ building, office buildings, residential buildings and the trades included in the various buildings and structures comprise architectural, interior finishes, structural, mechanical, electrical, telecommunication and the like, soft and hard landscaping, external parking, roads and infrastructural works.

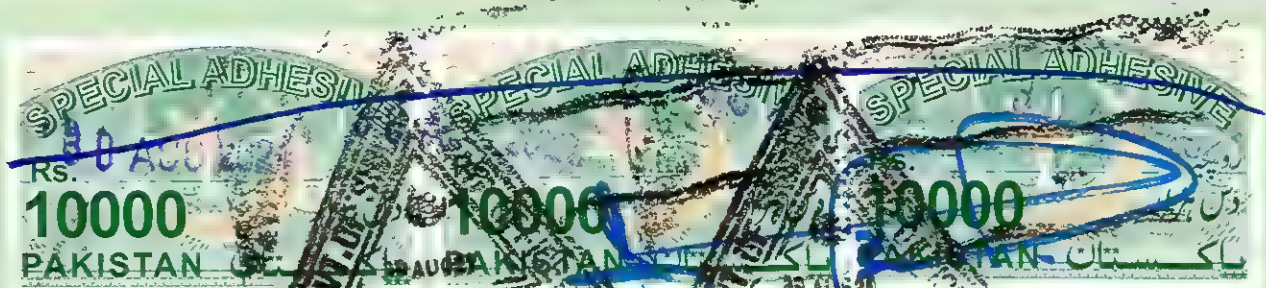
- Project Duration: 30 Months

Responsibilities and Duties:

- Provided contractual analysis and interpretation on project contractual issues, developed and derived resolution to closure.
- Communicated risks and requirements of Contracts.
- Responded to wide-ranging requests from the Employer and the Engineer's Site Team for all type of Contracts support.
- Identified areas for improvement to continually drive performance.
- Produced and maintained contracts for all Contractors and Subcontractors and kept organized records of all correspondence between all parties.
- Assisting in evaluation of time and cost impact of variation orders







(CONTINUED)  
CURRICULUM VITAE (CV)

- Provided regular support for all Construction Managers as well as liaison with the Employer.
- Reviewed and provided essential input on EOT assessment reports prepared by the Engineer.

2011 - 2012 With Saudi Binladin Group (SBG), Riyadh, Saudi Arabia,

Senior Contracts & Planning Engineer.

Worked on Infrastructure and buildings in King Abdullah Financial District Project, Riyadh, Saudi Arabia. The project consists of 120 high rise structures with all related infrastructure works, underground parking, mono rail system, skywalks and walkover bridges connecting towers, tunnels, and other facilities.

Responsible for claims/contract management along with planning and scheduling of the following works:

King Abdullah Financial District Zone 5 is the development of Infra-structure and is divided into the three following Packages;

- C01A-Earthworks (Attractors/Parcel Excavation & Road Grading):
  - Project Duration: 26 Months
  - Excavation/Grading Quantity: 3.394 million Cu.M.
- C01B-Utility Tunnel (RCC Structure Utility Tunnel, Equipment Rooms & MEP Works)
  - Project Duration: 16 Months
  - Length of Tunnel: 1980 LM
- C01C-Subterranean Tunnel (Includes RCC Structure Utility Tunnel below Subterranean Tunnel connecting all Financial Plaza Towers includes; Sub Roads, Bridge Deck and MEP Works)
  - Project Duration: 24 Months
  - Length of Utility Tunnel: 1632 LM
  - Length of Subterranean Road: 1679 LM

5 Commercial Towers in King Abdullah Financial District Zone 1.

Duties and responsibilities:

- Prepared Master Schedule for Client at the preliminary stage of the Project.
- Tracked contract funding, performed a risk assessment and assisted in the development of risk mitigation strategies.
- Recognized contractual issues in program performance, implemented solutions, while exercising fair judgement of obligations.
- Carried out Variation and Change Control Management.
- Implemented Project Control Forms to have an overview of the Project.
- Reviewed Bidder's Execution Schedules & Consultant Design Schedule and accordingly, prepared Evaluation Report for Employer's review.
- Prepared weekly and Monthly Progress Reports for Employer's review.
- Supported Quantity Surveying Team in preparation Interim Payments Certificates based on weekly/monthly progress look ahead charts.
- Prepared time (EOT) and prolongation cost claims for establishing any Contractor's EOT entitlement.
- Presented to the Employer/ Engineer contractor's claims and entitlement.

2006 - 2010 With Haji Noor Engineers and Co., Pakistan,

Project/Contracts Engineer.

Worked on the following projects in Pakistan:

- Faculty Office Block-1, COMSATS, Chak Shahzad, Islamabad. RCC frame structure 7,500 m<sup>2</sup> building, consisting of flat slab and structural steel canopies, basement level for car-parking, and 5 upper floors.
- Wedding Halls in Wapda Town, Lahore. RCC frame structure 3,000 m<sup>2</sup> building, consisting of waffle slab, ribbed slab, structural steel beams and columns, basement level for car-parking (180 stalls), and 2 upper floors.
- Rehabilitation/Upgrading of WAH Hospital in Taxila, including a 1,200 m<sup>2</sup> emergency and CCU department.
- Additional Nursing Block in Shaikh Zayed Hospital, Lahore. RCC frame structure 2,700 m<sup>2</sup> building with : lecture halls, laboratories, cafeteria and other amenities.
- Welfare Schools for Punjab Workers' Boys and Girls, Faisalabad-Sargodha. The project consists of 4 school buildings each of double-storey load bearing structure with multipurpose lecture halls, staff room, offices and play areas.

Duties and responsibilities:



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(CONTINUED)  
CURRICULUM VITAE (CV)

- Prepared correspondences and maintained records necessary to ensure the effective administration of all Contractual matters.
- Coordinated with Sub-Contractors to address their issues and discussed working strategies, to enhance work progress.
- Negotiated price, terms and conditions for new and existing Contracts and Subcontracts.
- Reviewed, analyzed, drafted and negotiated terms and conditions for all sub-contract awards utilizing Main Contract guidelines.
- Analyzed contract terms and conditions and monitored compliance.
- Managed Project Planning, Preparation of Interim Payments, Monthly Schedules, Weekly/Monthly Progress Reports.
- Reviewed Shop Drawings and coordinated with the concerned team before submission to the Engineer for approval.
- Reviewed I.P.C's before final submission to the Employer/Engineer.
- Reviewed and recommended payment certificates submitted by the Sub-contractors.
- Prepared Extension of Time and Cost Claims for Employer/ Engineer review and approval.
- Monitored and managed the monthly consumption of Construction Materials required.

2002 - 2005 With National Engineering Services of Pakistan (NESPAK), Pakistan,

Planning/Civil Engineer.

Worked on various projects in Pakistan, including Lahore Gymkhana Club golf clubhouse and ladies swimming pool, and the retrofitting works for Shaikh Zayed Hospital existing HVAC system.

Duties and responsibilities:

- Reviewed Contractor's/Consultant's Prequalification Document as per agreed selection criteria.
- Reviewed Tender Drawings related to Structure, Architecture, MEP, External Façade, Vertical Transportation and External Landscape & Hardscape Works, before final issuance to the Contractor.
- Reviewed and addressed Tenderers queries and accordingly, prepared Addendums for issuance to the Tenderers.
- Reviewed Bids on Technical/Contractual grounds, issued comments to the Tenderers and accordingly, coordinated with them.
- Prepared BID Evaluation Report and Evaluation Matrices based on Technical and Contractual Submission.
- Conducted Pre/Post Tender Clarification Meetings and Kick-off Meetings with Tenderers/Contractors.
- Prepared, coordinated and managed contract negotiation process. Identified and evaluated opportunities and financial terms for assigned contracts.
- Prepared RFP's for Engineering Consultants and Designers.
- Coordinated with JV Consultants in preparation/issuance of RFI's for construction feasibilities from vendors or suppliers, to conform to Client and Project requirement.
- Prepared Contracts and Cost Volume narratives for solicitation responses.
- Prepared updates and submitted progress reports to the client concerning the status of the work on a monthly basis.

Managed Project Planning & Scheduling, Monthly Schedule Updates and Weekly/Monthly Progress Reports for Employer's review.

Recommended final assessment and evaluation of the Payment Certificate submitted by the Contractors.

Expert's contact information: email: Bilal.Noor@dar.com, phone:

Certification:

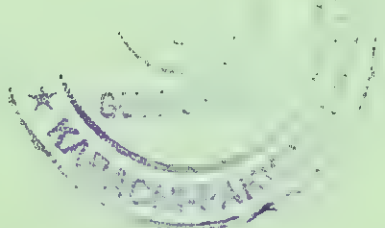
I, the undersigned, certify that to the best of my knowledge and belief, this CV correctly describes myself, my qualifications, and my experience, and I am available to undertake the assignment in case of an award. I understand that any misstatement or misrepresentation described herein may lead to my disqualification or dismissal by the Client, and/or sanctions by the Bank.

Name of Expert: BILAL NOOR

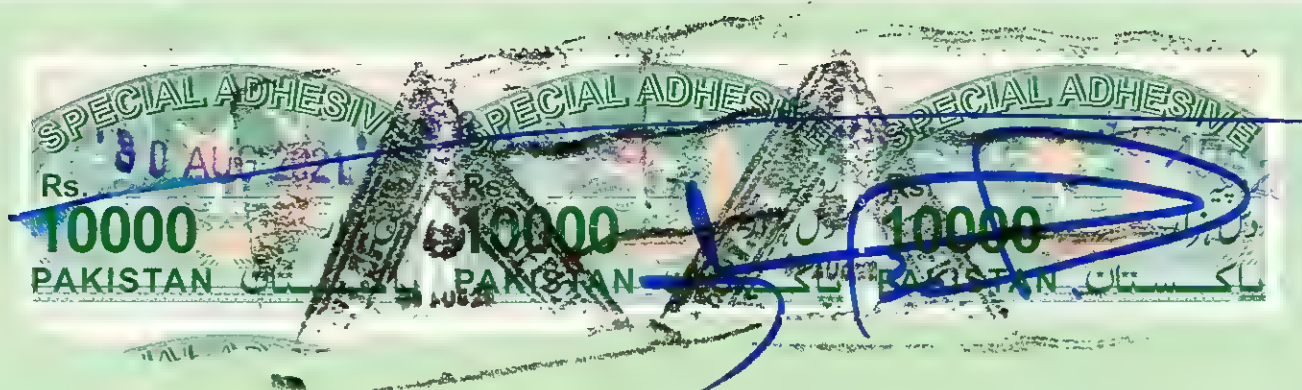
Date: 10/01/2021

Name of authorized Representative: BASSAM T. SHAKHSHIR

Date: 10/01/2021







Form TECH 6  
(CONTINUED)  
CURRICULUM VITAE (CV)

Position Title and No. RESIDENT ENGINEER-2  
Name of Expert: ISRAR ULLAH KHAN  
Date of Birth: 12 April 1965  
Country of Citizenship/Residence Pakistan

Education:

M.Sc. (Soil Mechanics and Foundation Engineering), University of Engineering and Technology, Lahore – 1999  
B.Sc. (Civil Engineering), University of Engineering and Technology, Lahore – 1991

Employment record relevant to the assignment:

Period to date	Employing Organisation and your title / position. Contact info for references	Country	Summary of activities performed relevant to the Assignment
1998 – to date	NESPAK (Pvt.) Ltd. Project Manager (Design); Resident Engineer; Principal Engineer Assistant Resident Engineer; Senior Engineer	Pakistan / Oman	Performing the tasks of project management, construction supervision & coordination of completion activities. Preparation of project completion report providing details of project implementation, problems encountered, solutions adopted, detailing and explaining any variation in project costs and implementation schedules from the original estimates. Management and direction of construction team Engineers and Inspectors for the supervision of project works.
1997 – 1998	Associated Consulting Engineers – ACE (Pvt.) Ltd. Jr. Geotechnical Engineer	Pakistan	Responsible for the Construction and supervision of Roads
1997	China Beijing Corporation Senior Geosynthetic Engineer	Pakistan	Responsible for the Construction and supervision of Roads
1993 – 1997	M/s Republic Engineering Corporation Junior Engineer	Pakistan	Responsible for the Construction and supervision of Roads
1992 – 1993	M/s DAEWOO Corporation Site Engineer	Pakistan	Responsible for the Construction and supervision of Roads
1991 – 1992	M/s Multi-Dimensional Consultants Assistant Design Engineer	Pakistan	Responsible for the Construction and supervision of Roads

Membership in Professional Associations and Publications:

Member, Pakistan Engineering Council – PEC No. CIVIL 13325

Language Skills	Reading	Writing	Understanding
English	Excellent	Excellent	Excellent
Urdu	Excellent	Excellent	Excellent



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ISRAR ULLAH KHAN

Page 2

**Adequacy for the Assignment:**

**Detailed Tasks Assigned:** Refer to TECH-5 and TECH-6

**Reference to Prior Work / Assignments that Best Illustrates Capability to Handle the Assigned Tasks**

2020

**NESPAK (Pvt.) Ltd.**

**Principal Engineer**

**Name of Assignment or Project:** Lahore Orange Line Metro Train Project

**Year:** August 2020 to date

**Location:** Lahore, Pakistan

**Client / Company:** Punjab Mass transit Authority, Government of the Punjab

**Main Project Features:** Construction supervision of Lahore metro Train carried out by joint venture of NESPAK and the China Railway Engineering Group Co. Limited. The NESPAK joint venture also prepared detailed design for this Rs. 163 billion projects awarded by the Punjab Government. The train runs on a state-of-the-art 27km track between Ali Town and Dera Gujran, Lahore.

**Activities Performed:**

- Performing the tasks of project management, construction supervision & coordination of completion activities.
- Verification of final payment certificates of the project as per general specifications and contract conditions.
- Assist the contractor in preparation of "As Built" drawings at the completion stage of the project.
- Involvement in procedures for conducting out handing over of project to the client.
- Compiling punch lists for completed construction works and supervising project closeout activities.
- Preparation of project completion report providing details of project implementation, problems encountered, solutions adopted, detailing and explaining any variation in project costs and implementation schedules from the original estimates.

2017-2020

**NESPAK (Pvt.) Ltd.**

**Resident Engineer**

**Project:**

Quetta Development Package Road Project, Baluchistan

**Year:** April 2017 – April 2020

**Location:** Quetta, Pakistan

**Client / Company:** Planning and Development Dept, GOB

**Main Project Features:** The Baluchistan Planning and Development Department selected NESPAK through a competitive bidding process to provide consultancy services for the Quetta Development Package-Road Projects. The services include traffic model study of the Quetta City, detailed design and construction supervision of two flyovers at the Belleli Road and Gawalmandi Chowk, an elevated expressway, rehabilitation of four roads and beautification of Zarghun Road (length 4 km). Project cost is approx. Rs. 10 billion.

**Responsibilities and Duties:**

- Responsible for overall control of project execution, progress, physically & financially according to contractual requirement of the project.
- Verification of IPCs and final payment certificates of the project as per general specifications and contract conditions.
- Ensure the quality of works as per Drawings as per General Specifications
- Dealing with Client, Consultant and Contractors regarding technical matters
- Cold milling of carriageways, overlaying, and other road repairs associated works and pavement marking.
- Traffic count, traffic analysis, transport master plan and identification of congested roads and their proposed solutions.
- Responsible for timely disposal of progress reports and project completion report to client.

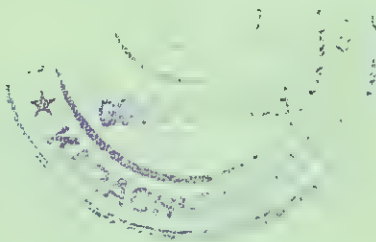
2016-2017

**NESPAK (Pvt.) Ltd.**

**Resident Engineer**

**Project:** Karachi Hyderabad Motorway (M-9)

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ISRAR ULLAH KHAN

Page 3

Month & Year: March 2016 – March 2017

Location: Karachi, Pakistan

Client: National Highway Authority / Fauji Motorway Company Ltd.

**Main Project Features:** The project comprises conversion of the 4-lane Karachi-Hyderabad Super Highway into a 6-lane fenced motorway on the BOT basis. The concessionaire, the Frontier Works Organization, will construct and operate the motorway for a period of 25 years. Project Cost is Approx. 38 Billion Rupees

**Responsibilities and Duties:**

- Execution of civil works according to approved drawings & specifications.
- Proper inspection of construction materials as per ASTM and AASHTO Standards.
- Quality control of soil work and asphalt works, carried out at site.
- Provide technical advice regarding design, construction, or work program modifications and structural repairs.
- Certify interim payment certificate and issuance of variation orders.
- Preparing Bar Bending Schedule (BBS) for the required structural members.
- Construction supervision of associated flyover, underpasses along with drainage structures for the project.
- Preparation and submission of monthly progress and inspection reports to the CRE.

2015-  
2016

**NESPAK (Pvt.) Ltd.**

Resident Engineer

**Project:**

Improvement of Existing Khasab to Tibat Coastal Road, Oman

Month & Year: Feb 2015 – To March 2016

Location: Muscat, Oman

Client: Oman Ministry of Transport & Communications

**Main Project Features:** The project involved upgrading and improving a 40-kilometer road from Khasab to Tibat Coastal Road.

The project also included the construction of a single carriageway road.

**Responsibilities and Duties:**

- Construction of embankment inside the sea, protection work & stabilization of existing cut slope along with drainage structures.
- Technical monitoring of ongoing civil works for quality assurance through field inspections.
- To check the execution of all the civil work activities at site & to issue guidelines to site Engineers.
- Proper inspection of construction materials as per ASTM and AASHTO Standards.
- Supervision of all quality tests of aggregate & bitumen regarding asphaltic base course & asphaltic wearing course.
- Provide technical advice regarding design, construction, or work program modifications and structural repairs.
- To prepare Daily, Weekly, and Monthly progress reports for the project.
- Tracking and scheduling project timeline and production of monthly progress reports.

2014-  
2015

**NESPAK (Pvt.) Ltd.**

Resident Engineer

**Project:**

Rawalpindi – Islamabad Metro Bus Project

Month & Year: May 2014 – To Feb 2015

Location: Islamabad – Pakistan

Client: Rawalpindi Development Authority

**Main Project Features:** The 23.2km Metro Bus System corridor was divided into (8-Packages) including construction of Depot Area. Several Flyovers and Pedestrian Underpasses.

**Responsibilities and Duties:**

- Supervising the survey to carry lay out, establish reference points, grades and elevations to guide construction.
- Supervision and execution of piling, girder (casting, stressing and launching), deck Slab (casting & stressing), including fabrication and installation of expansion joints.



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- Verify shop drawings and bar bending schedules, cross sections, interim payment certificates & escalations for approval.
- Responsible for assisting in approval of design and construction method statements relating to the structure works.
- Coordinate with the Contractor on scheduling and application of resources.
- Pushing contractors and subcontractors for timely completion of works.
- Tracking and scheduling project timeline and production of monthly progress reports.
- Guide the contractors for observing time schedules and specifications.
- To prepare Daily, Weekly, and Monthly progress reports for the project.
- Compiling snags lists for the completed works and supervising project closeout activities.

2013-  
2014

**NESPAK (Pvt.) Ltd.**

**Resident Engineer**

**Project:**

Construction supervision of Rural Access of Khyber Pakhtunkhwa (KPK).

Month & Year: December 2013 - May 2014

Location: Mansehra KPK, Pakistan

Client: Communication & Works Dept, KPK

**Main Project Features:** The Project included rural road improvement across KPK, The Rs.15 billion project comprised 80 roads and 10 bridges in 17 districts with a total length of 527 KM.

**Responsibilities and Duties:**

- Monitoring and supervision of daily production of Asphalt mixes from asphalt batching plants.
- Supervised Laying of Asphaltic Base Course and Asphaltic Wearing Course as per Specification.
- Checking the Contractor's Quality Assurance Plan, Health and Safety Plan and Method Statements.
- Participation in project meetings and discussions with the contractor.
- Guide the contractors for observing time schedules and specifications & Issuance of Completion Certificates.
- Testing of soil to determine the adequacy and strength of foundations.
- Overseeing quality control, health and safety matters on site.
- Preparation of daily, weekly and monthly progress reports.

2011-  
2013

**NESPAK (Pvt.) Ltd.**

**Resident Engineer**

**Project:**

Construction Supervision of Lahore Ring Road

Month & Year: March 2011 - December 2013

Location: Lahore Pakistan

Client: Communication & Works Dept, Punjab / (Lahore Ring Road Authority)

**Main Project Features:** The Lahore Ring Road Authority implemented the Rs. 25 billion projects. The 23km project comprises two sections for a 6-lane highway, flyovers and underpasses on the Build-Operate-Transfer (BOT) basis

**Responsibilities and Duties:**

- Setting out, leveling & surveying the project sites to start the construction work.
- Checking of work plans, drawings and quantities.
- Identify problems or hazards which have, or are likely to occur, in the implementation of construction work.
- Monitor progress and compile reports regarding the project status.
- Checking the Contractor's Quality Assurance Plan, Health and Safety Plan and Method Statements.
- Supervision and Inspection of road works according to approved drawings and project specifications.
- Participation in project meetings and discussions with the contractor.



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- Guide the contractors for observing time schedules and specifications & Issuance of Completion Certificates.
- Supervise the concrete & perform test during Concrete Pouring (slump check, concrete temperature etc.)
- To prepare Daily, Weekly, and Monthly progress reports for the project.
- Direct the site supervision related to structure and associated works.
- Responsible for assisting in approval of shop drawings, design proposals, method statements relating to the structure works.
- Coordinate with the Contractor on scheduling and application of resources.
- Pushing contractors and subcontractors for timely completion of works.
- Controlling quality, progress, cost and safety of works.

2006-  
2011

NESPAK (Pvt.) Ltd.

Project Manager

Project:

Design of Dual Carriageway (108 KM) from Ibri Ad-Dariz to Yunqal and Ibri Ad-Dariz to Miskin  
Month & Year: September 2006 - March 2011  
Location: Muscat – Sultanate of Oman  
Client: Oman Ministry of Transport & Communications  
Main Project Features: Project included detail design, tender documents and construction supervision.

Responsibilities and Duties:

- Responsible for detail design involving geometric design, design for road features, road safety/traffic control features, drainage designs, rehabilitation & repair plan, traffic plans & amenities, including detailed drawings and specifications.
- To assign tasks to the junior engineers, draftsmen and quantity surveyors to make sure that the deliverables are submitted within stipulated timelines.
- Direct, lead and support other technical personnel in managing and executing multiple tasks related to design.
- Analysis of soil test reports to determine soil parameters for the design of pavements.
- To attend meetings with client regarding different design proposals, issues & alternative options in the road design.
- Preparation of detail design, construction drawings, alignment study report, preliminary design report, preliminary design drawings and approval thereof.
- Conducted site visits and design review meetings with the client technical committee.
- Prepared the final design drawings, final design reports and tender documents.
- Review of Engineer's Cost Estimate / Bill of Quantities.

2004-  
2006

NESPAK (Pvt.) Ltd.

Resident Engineer

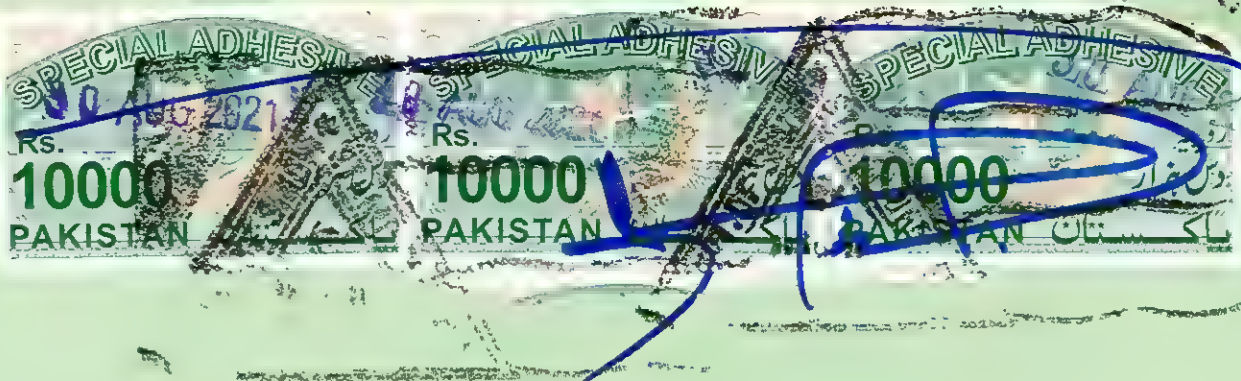
Project:

Construction of Road Connecting Sohar Port to Ad Dhahirah Region  
Month & Year: Jan 2004 - September 2006  
Location: Sohar – Sultanate of Oman  
Client: Oman Ministry of Transport & Communications  
Main Project Features: A Project of costing 23.31 Million US Dollar having length 145 kms include Rehabilitation, new construction and repair works of existing culverts.

Responsibilities and Duties:

- Approval of shop drawings and cross sections of the road submitted by the contractor.
- Re-designing of road alignments where necessary as per site conditions.
- Continuous field inspections of the work in progress and consultation with both the Client's and Contractor's supervisory staff.
- Coordination with the Contractor's supervisory staff regarding schedule, sequence and method of work.





ISRAR ULLAH KHAN

Page 6

2003

- Drafting technical letters, Confirmation of Verbal Instruction (CVI) and Non Conformance Report (NCR) for low quality work.
- Construction supervision and quality assurance of the road according to project specifications.
- Convene and chair regular site meetings about issues related to construction works.

NESPAK (Pvt.) Ltd.

Senior Engineer

**Project:**

- Construction of Islamabad – Murree Dual Carriageway, Rehabilitation
  - Improvements of Lahore Bund Road and Khujari – Bewata section of National Highways N-70
- Month & Year: Jan, 2003 - Dec, 2003  
 Location: Lahore Pakistan  
 Client: National Highway Authority  
 Main Project Features: Rehabilitation and Improvement of Roads

**Responsibilities and Duties:**

- Modifications in designs, designing of new road in Faisalabad city, checking of running bills & progress reports, claiming of monthly invoices and audit of Lahore Bund Road.
- Construction supervision and quality assurance of the road according to project specifications.
- Quality control of soil works and asphalt works, carried out at site.
- Checking materials delivered to the site for compliance with contract requirements.
- Supervision of all quality tests of aggregate & bitumen regarding asphaltic base course & asphaltic wearing course.
- To attend meetings with client regarding different design proposals, issues & alternative options in the road design.
- Assist the contractor in preparation of "As Built" drawings.
- Pavement marking and other road repairs associated works.
- Monitoring and supervision of daily production of Asphalt mixes from asphalt batching plants.
- Supervised Laying of Asphaltic Base Course and Asphaltic Wearing Course as per Specifications.
- Checking and verification of contractor's bills/IPC.
- Tracking and scheduling project timeline and production of monthly progress reports.
- Compiling snags lists for the completed works and supervising project closeout activities.

2002

NESPAK (Pvt.) Ltd.

Resident Engineer

**Project:**

Strengthening – Rehabilitation/Improvement of Chichawatni to Burawala Road (length 47 km)  
 Month & Year: June, 2002 - Dec, 2002  
 Location: Chichawatni - Pakistan  
 Client: Communication & Works Dept, Punjab  
 Main Project Features: Strengthening – Rehabilitation/Improvement of Chichawatni to Burawala Road (length 47 km)

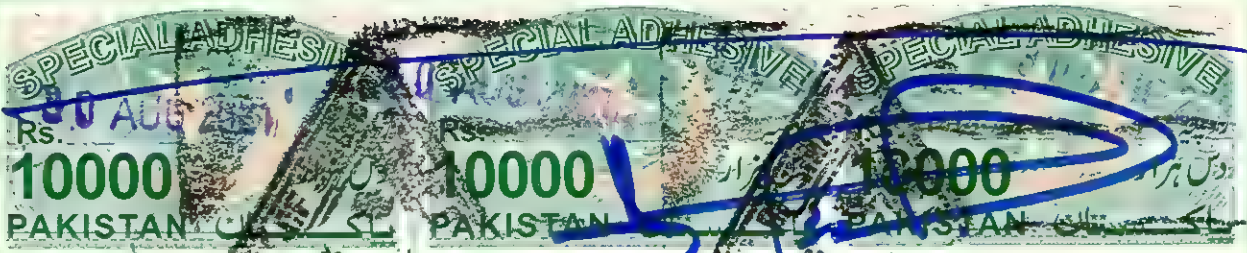
**Responsibilities and Duties:**

- Carrying out overall project management, reporting to the CRE and Client, coordinating with local communities, other stakeholders in the Project area and with the Punjab Highway Authority on design related issues.
- Review shop drawings and geometric design, cross sections, (IPC's), escalations and variation orders for approval.
- Review and approval of Detailed Engineering Design (including all drawings, specifications and supporting calculations & documentation), Construction Method Statements/ Construction Work Packages (CMS/ CWP), Milestones, Field Change Notice.
- Cold milling of carriageways, overlaying, and other road repairs associated works and pavement marking.
- Supervision of all quality tests of aggregate & bitumen regarding asphaltic base course & asphaltic wearing course.



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ISRAR ULLAH KHAN

Page 7

- Ensure the quality of works as per Drawings as per General Specifications
  - Proper inspection of construction materials as per ASTM and AASHTO Standards.
- 1991-2002
- NESPAK (Pvt.) Ltd. (Oct 1998 – May 2002)
  - Associated Consulting Engineers – ACE (Pvt.) Ltd. (Jun 1997 – Oct 1998)
  - China Beijing Corporation (Feb 1997 – Jun 1997)
  - M/s Republic Engineering Corporation (Dec 1993 – Jan 1997)
  - M/s DAEWOO Corporation (Jun 1992 – Dec 1993)
  - M/s Multi-Dimensional Consultants (Mar 1991 – Jun 1992)
- Assistant Resident Engineer (Oct 1998 – May 2002)
  - Junior Geotechnical Engineer (Jun 1997 – Oct 1998)
  - Senior Geosynthetic Engineer (Feb 1997 – Jun 1997)
  - Junior Engineer (Dec 1993 – Jan 1997)
  - Site Engineer (Jun 1992 – Dec 1993)
  - Assistant Design Engineer (Mar 1991 – Jun 1992)

**Project:**

- Construction supervision of Bund Road, Lahore
- Construction supervision of Japanese - Assisted Rural Roads in the District of Khushab
- Power Complex at Ghazi Barotha (C-03), Pakistan
- Canal Lining with Geo-synthetic sheets Fordwah Eastern Sadiqla South Canal Lining Project, Bahawalnagar
- Lahore – Islamabad Motorway, Pakistan (client – NHA Pakistan)

Month & Year: March 1991 – May 2002

Location: Lahore, Pakistan

Client: Various

Main Project Features: Various

**Responsibilities and Duties:**

- Management of day to day activities including supervising & monitoring the site labour force.
- Engaging manpower at different locations such that the productivity of work increases.
- Calculating the quantities (concrete, shutter and other materials) required to cast the structural members.
- Ensuring that all materials used and constructions work performed are as per specifications and drawings.
- Overseeing quality control, health and safety matters on site.

**Expert's contact information:** Email: ullahkhan65@gmail.com  
Phone: +92-333-4361441 / +92-332-4361441

**Certification:**

I, the undersigned, certify that to the best of my knowledge and belief, this CV correctly describes myself, my qualifications, and my experience, and I am available to undertake the assignment in case of an award. I understand that any misstatement or misrepresentation described herein may lead to my disqualification or dismissal by the Client, and/or sanctions by the Bank

Name of Expert: ISRAR ULLAH KHAN

Date: 18/12/2020

Name of Authorized Representative: BASSAM T. SHAKHSHIR

Date: 18/12/2020



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Form TECH 6  
(CONTINUED)  
CURRICULUM VITAE (CV)

Position Title and No. Resident Engineer  
Name of Expert: SALAHUDDIN AHMAD SHAIKH  
Date of Birth: 1957  
Country of Citizenship/Residence Pakistan

Education:

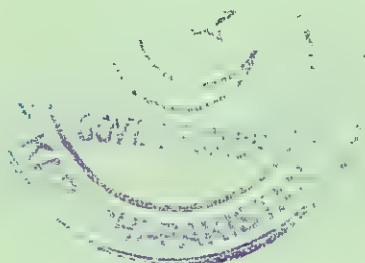
BE, Civil, Mehran University of Engineering and Technology, Jamshoro, Pakistan, 1985

Employment record relevant to the assignment:

Period	Employing Organisation and your title / position. Contact info for references	Country	Summary of activities performed relevant to the Assignment
2012 – 2020	Dar Al-Handasah Consultants (Shair and Partners) Resident Engineer	Dubai, UAE	Management and direction of construction team Engineers and Inspectors for the supervision of project works by planning, directing, supervising and controlling the execution of technical and administrative functions of the project and participate in determining the technical skills & staff hours required for successful completion of the project in accordance with the contractual agreements. Acts as a main point of contact with the client for the construction supervision aspects of the project, including progress reporting,
2010 – 2012	KEO International Consultants Resident Engineer	Abu Dhabi, UAE	Management and direction of construction team Engineers and Inspectors for the supervision of project works by planning, directing, supervising and controlling the execution of technical and administrative functions of the project and participate in determining the technical skills & staff hours required for successful completion of the project in accordance with the contractual agreements. Acts as a main point of contact with the client for the construction supervision aspects of the project, including progress reporting,
2007 – 2010	Parsons International Limited (Consultants) Resident Engineer	Abu Dhabi, UAE	Management and direction of construction team Engineers and Inspectors for the supervision of project works by planning, directing, supervising and controlling the execution of technical and administrative functions of the project and participate in determining the technical skills & staff hours required for successful completion of the project in accordance with the contractual agreements. Acts as a main point of contact with the client for the construction supervision aspects of the project, including progress reporting,
1996 – 2007	Al-Naboodah Contracting Co. LLC Site Engineer / Asphalt Engineer / Senior Engineer / Site Agent	Dubai, UAE	Responsible for the Construction and supervision of Roads, Water supply (pipeline) System, Storm Water Drainage pipeline system and Sewerage pipeline system projects.
1986 – 1996	Local Municipality, Road and Drainage Division Assistant Executive Engineer	Karachi, Pakistan	Responsible for the Construction and supervision of Roads, Water supply (pipeline) System, Storm Water Drainage pipeline system and Sewerage pipeline system projects. Preparing project estimates and office administration

Membership In Professional Associations and Publications:

Fellow of Pakistan Engineering Council, Pakistan, Registration No. Civil 9135, 31 Aug 1985  
Fellow of Society of Engineers, UAE. (Membership No. 17072.)



Signature





Form TECH 6  
(CONTINUED)  
CURRICULUM VITAE (CV)

Approved as Resident Engineer from Tabreed PJSC, for Infrastructure projects, from Parsons International Consultants in 2007  
Approved as Resident Engineer by Abu Dhabi Western Region Municipality, for Infrastructure Projects, from KEO International Consultants Abu Dhabi, UAE in 2010  
Approved as Resident Engineer by Dubai Civil Aviation Authority for Infrastructure Projects, from DAR AL Handasah Shair & Partners Consultants in 2012

Language Skills	Reading	Writing	Understanding
English	Excellent	Excellent	Excellent
Arabic	Good	Good	Good
Urdu	Excellent	Excellent	Excellent
Sindhi	Excellent	Excellent	Excellent

**Adequacy for the Assignment:**

Detailed Tasks Assigned: Refer to TECH-5 and TECH-6  
Reference to Prior Work / Assignments that Best Illustrates Capability to Handle the Assigned Tasks

2012- With Dar Al-Handasah Consultants (Shair and Partners), Dubai, UAE  
2020 Resident Engineer

- Projects  
Expansion, Dubai Airport and Al Maktoum Airport-Jebel Ali, Dubai, UAE which includes Construction and supervision of the following infrastructure projects at Dubai International Airport and Al Maktoum International Airport:
- DPBLD0/63 - DNATA Staging Facility with Ground+1 Building  
Duration: 12-Jan-20 to 28-Sep-20 (on hold)  
Description: Construction of DNATA Office Building including external Utilities & Finishing Works including Demolition of existing asphalt; Sewage Network; Storm Water Network; Water & Fire Fighting Network; LV & ELV Network; Street Light Network and Landscape Works. Construction of Access road and modification of existing GSE road with Cold Milling, it includes laying of Asphalt, road base sub base, preparation of subgrade and formation. Pavement marking and installation of Street lights poles.
  - Airfield Infrastructure at DXB & JXB Airports  
Duration: 1-Oct-18 to 31-Dec-21.  
Various work within the premises of Dubai International Description: Airport including gates/fences; storm water pump station, Car Parks, apron works which includes preparation of formation and subgrade, laying of Granular sub-base, aggregate road base, two layers of Asphaltic base course and PQ Concrete for the Apron slabs, improvement of CUC's & ESU's facility; construction of ponds and drainage network; the construction of potable water line etc.
  - DPINF-016B - Dubai Airport South Runway Rehabilitation Works  
Duration: 12-Dec-18 to 31-Dec-19  
Description: Works include the construction of Airfield works from Civil, cold milling and resurfacing of Asphaltic Runway and airfield ground lighting to other MEP works during Pre-Closure to actual closure of the RWY. Modification and introduction of Taxiways connection to South Runway which includes preparation of formation and subgrade, laying of Granular sub-base, aggregate road base, Asphaltic base course layers and Wearing course layers. Pavement marking, traffic diversion etc.
  - SP100 - Airport Infrastructure including Apron and Taxiways  
Duration: 2-Feb-12 to 31-Sep-18  
Description: Works include the construction of Airfield works from Civil and airfield ground lighting to other MEP works during Pre-Closure to actual closure of the Runway.
  - SP.723 - Airfield and infrastructure works for South Side Al Maktoum International Airport-800 Million Dirhams  
Duration 20-Nov-16 to 22-Oct-18





Form TECH 6  
(CONTINUED)  
CURRICULUM VITAE (CV)

Description: The project is the development of airfield and infrastructure for South side AMI, particularly around the existing PTB that achieved 57 stands (a combination of existing, upgraded and new stands). The enhancement includes additional car park / staging area, construction of Taxiways, GSE road and internal roads which includes laying of Asphalt, road base sub base, preparation of subgrade and formation. Pavement marking and installation of Street lights poles; upgrade of services (400Hz equipment, electrical sockets & ECP) of existing stands; reconfiguration of existing stands on the North; upgrading of head-of-stand GSE road up to existing Super gate; introduction of 4 new crossovers; extension of the Fuel networks and associated EFSS; addition and relocation of airside/landside fence; new, relocation and maintained VDGS poles and equipment; new PCA pits and associated equipment and infrastructure for new stands; diversion work, dismantling and provision of all wet utilities networks like water supply network, firefighting network, storm network and sewage network etc.; BMS serving the package substations, the outdoor lighting, the PCA units, the 400Hz pits, etc.; and Airfield lighting and modification to existing airfield lighting control and monitoring system.

- W.O. 20E - AX486-1 - Upgrade of Apron Stands B26, B27 and F27 at Concourse-2  
Duration: 13 Million 20-Mar-12 to 30-Apr-15  
Description: Upgrade of Three (3) Code E Stands "B26, B27 and F27" at Concourse 2 which include construction of enabling works, new airfield and infrastructure works.
- W.O. 20F - AX486-2 - Upgrade of Apron Stands B18 and B21 at Concourse- 2. 9 Million  
Duration: 20-Mar-12 to 5-Apr-15  
Description: Upgrading of B18 and B21 Stands from construction of enabling works to new airfield and infrastructure works.
- W.O.20I - AX481-2 - New Apron at DAFZA - 80 Million  
Duration: 20-Mar-12 to 9-Jan-15  
Description: Construction of new apron including enabling and lighting works.
- W.O. 20C - AX481-3 - Temp. Stands at ECHO Apron + upgrading of E1 and E2 Stands - 13 Million  
Duration: 8-Feb-12 to 17-Jul-13  
Description: Construction of temporary stands at ECHO apron.
- W.O. 20J - AX481-4 - Echo Marsing Apron at T2 - (163 Million Dirhams)  
Duration: 20-Mar-12 to 8-Jul-15  
Description: Upgrading of ECHO MARSING (Multi Aircraft Ramp System) stands including civil, airfield ground lighting and signage related electromechanical and low-current systems, marking and signing schemes, fire-fighting, wet infrastructure utilities and networks, and upgrading the Jet fuel hydrant system. Diversion/relocation/protection of existing complex utilities in coordination with the concerned authorities
- W.O.36 - Construction of Blue Water Discharge Facilities at North, East and West - (13 Million Dirhams)  
Duration: 20-Oct-14 to 2-Jun-16  
Description: Construction of effluent Discharge facilities located at East of Airport which includes, construction of blue water facility building, underground water tanks, Steel structure shade, lifting pumps, and associated MEP works. Testing and commissioning of the system.
- W.O. 37 - Construction of Potable Water Facilities North and East - 7.7 Million  
Duration: 25-Apr-16 to 13-Aug-18. Construction of Potable Water Facility for Aircraft East side which includes construction of potable water facility building, steel structure shade, car parks and associated MEP works. Testing and commissioning of the system.
- W.O. 43 - Widening of Road at DAFZA West Entrance - 4.2 Million  
Duration: 25-Sep-14 to 31-Mar-16  
Description: Investigation, Demolition and Dismantling works; Road works including Utilities works. Construction of Security Gate at Dubai Free Zone Authority. Relocation and protection of existing utilities, landscaping work, footpath, work, installation of street light poles, construction of security rooms with associated MEP works. Cold milling and modification/widening of existing roads.
- W.O. 40 and 24 - Airport Miscellaneous Works (Around 100 in numbers) - 7.5 Million  
Duration: 26-Jan-14 to 1-Oct-18  
Description: Various Miscellaneous works comprising of small area packages with short term durations.
- W.O. 29 - Terminal 3 Kerbside Arrivals (EK F & J) Interim Solution at Dubai Airport - 1.9 Million  
Duration: 1-Nov-12 to 10-Mar-13  
Description: Modification of existing Lemo parking, which includes modification of islands, relocation of signage, dismantling and reinstating of asphaltic roads etc
- W.O. 23 - Police Parade Building - Proposed New Offices and Stores - 76 Million



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Form TECH 6  
(CONTINUED)  
CURRICULUM VITAE (CV)

Duration: 21-Nov-12 to 1-Jun-13

Description: Construction of new offices and stores including interior and external finishing. Including associated MEP works. Testing and commissioning of services installed as required.

- DXB & JXB Projects: In-charge (additional charge) for the Close Out Deliverables of above and diversified Projects (around 60 nos).

Duration: Aug. 2017 to Apr. 2020

**Responsibilities and Duties:**

- Management and direction of construction team Engineers and Inspectors for the supervision of project works by planning, directing, supervising and controlling the execution of technical and administrative functions of the project and participate in determining the technical skills & staff hours required for successful completion of the project in accordance with the contractual agreements.
- Acts as a main point of contact with the client for the construction supervision aspects of the project, including progress reporting, HSE, financial recommendations, quality control, and design modifications. Manage correspondence with the client, sub consultant, contractors, sub-contractors and suppliers.
- Perform the duties of the Engineer's Representative under FIDIC and execute the EPC Lump Sum contract and ensure the Contractor's compliance with the contract documents. Review contractor's correspondence on contractual issues (variation orders evaluation, extension of time, claims, etc.) and provide recommendations and pertinent replies. He also provides support to QS/Contracts team on commercial issues as and when required.
- Review & prepare responses to request for information (RFIs), request for clarifications (RFCs) and the usual submittals including method statements/risk assessments (MS/RA), materials/contractors/sub-contractor's approvals, shop drawings etc.
- Participate in the development, execution, supervision, and coordination of all technical aspects of field engineering assignments including development of plans, schedules, contracts, procedures, and construction methods and systems.
- Responsible for reviewing the performance of contractors/subcontractors to assure contract compliance, the application of accepted construction technology and standards, and the acceptable standardization of materials and supplies.
- Organize and attend weekly/monthly upper management meetings with the Client and the Clients representatives; which deal with the package's reviews, contractors' performance, major achievements/risks in the period, updating on the contractor's resources/issues and the monitoring of the contractual milestones.
- Provide technical expertise for one or more of the construction engineering disciplines and ensure that tests and inspections are performed, witnessed, and documented in accordance with approved procedures.
- Ensures that the project Quality Assurance/Quality Control procedures are used for the supervision works and monitors it for improvement. Cooperates with audits required in accordance with the contract requirements and Dar quality standard.

2010- With KEO International Consultants, Abu Dhabi, UAE

2012 Resident Engineer

**Projects:**

- Construction of 448 Community Villas at Sila, Abu Dhabi. (Infrastructure Works)  
Client: Sorouh Real State PJSC. Cost – 606 Million UAE Dirham  
Duration: August 2011 to 30 April 2012  
Description: The infrastructure work for 448 villas consists of construction of major and minor roads which includes earthwork, formation, subgrade, laying of crushed road base, granular sub base, laying of Asphaltic base course, binding course and wearing course, pavement marking and street lighting. Provision of new underground services which includes installation, testing and commissioning of the services networks as, Earthworks/dewatering for Services, Potable / Fire Fighting Water System, Irrigation Water System, Storm Water Drainage, Foul Sewerage System, Electrical Distribution, Telecommunications Network, Internal Roads and Street Lighting, Hard & Soft Landscaping
- Rehabilitation of Irrigation System and Landscaping Works, Al Sila and Al Ghweifat, Abu Dhabi  
Client: Western Region Municipality Abu Dhabi, UAE. Cost – 50 Million UAE Dirham  
Duration: August 2010 to July 2011  
Description: Construction of Irrigation reservoir pump station and connecting to existing Irrigation system providing irrigation system to Landscaping areas and public gardens.  
Public Gardens Construction and Maintenance with Al Sila, Abu Dhabi, UAE.  
Client Western Region Municipality Abu Dhabi, UAE. Cost – 50 Million UAE Dirham





Form TECH 6  
(CONTINUED)  
CURRICULUM VITAE (CV)

Duration: August 2010 to July 2011

Description: Construction of 8 nos. Public Gardens which includes landscaping, construction of walkways, Gazebos, Palm trees, Children play area with equipment, Rest area, Toilets etc.

**Responsibilities and Duties:**

- Responsible for the construction and supervision of the projects from start to finish and make sure that projects are being completed within time and budget. Responsible on all matters pertaining to the construction and commissioning of the project, responsible of all administrative and technical activities at site which includes construction of Road Network which include laying of Asphalt, crushed aggregate road base/Wet mix, sub-base, earth works, pavement markings, street light poles etc. Construction of utilities as Sewerage pipeline network, Potable Water pipeline network, buried Electric cables, Storm water pipe line network, Irrigation pipeline network, Telecommunication network, street lighting etc. Construction of public garden, landscaping, car parking etc. This includes excavation shoring, dewatering etc.
- Supervise and provides administrative supervision of the project staff of Contracts Engineer, Assistant Resident Engineers, Senior Inspectors, Inspectors, Quantity Surveyor, Land Surveyor, Scheduler, Drafters and administrative staff. Ensure prompt exchange of correspondence, Shop Drawings, As-built drawings, material submittals, method statements, prequalification documents of subcontractor and suppliers, RFI's and Change orders to all parties.
- Maintain correspondence submittal, RFI and Change Order logs in accordance with Project Procedures. Be aware of and remain vigilant of all aspects of the construction activity at the assigned site.
- Respond with appropriate and necessary levels of action and supervision to meet Quality and Safety expectations of the work in accordance with contract documents. Advise and assist the Contractor on construction procedures and contractual matters as required.
- Schedule, chair and attend required site construction meetings with the Contractor and the Client as scheduled.
- Prepare minutes of the meeting and issue to the client, superiors and concerned.
- Review contractor's change order proposals (COP's) and prepare recommendations for the client.
- Assist in negotiations with contractors regarding change in contract value or project time.
- Review claims from the contractor and prepare recommendations for the Construction Manager.
- Review and monitor the Contractor's progress on a regular basis with the Project Scheduler.
- Review progress measurement and issue payment certificates.
- Issue necessary field orders and attention given to avoid claims by the contractor.
- Preparing punch-list, certification on completion of work, recommend Provisional and Final Acceptance Certificates.

2007-2010 With Parsons International Limited (Consultants), Abu Dhabi, UAE

**Resident Engineer**

**Projects**

- Tabreed District Cooling Scheme SM01, Shams (Reem Island) Distribution Piping Network, Abu Dhabi, UAE  
Cost: 85 Million UAE Dirham
- Tabreed District Cooling Scheme SM01, Shams (Reem Island) Tower-1 & Tower-2 Energy Transfer Station, Abu Dhabi, UAE.  
Cost: 3.8 Million UAE Dirham
- Tabreed District Cooling Chilled Water Pipeline Network, Phase 2A, Dubai, UAE  
Cost: 35 Million UAE Dirham
- Tabreed District Cooling Chilled Water pipeline to Dubai Union Square Metro Station, Dubai, UAE  
Cost: 1 Million UAE Dirham
- Tabreed District Cooling Chilled Water Pipeline Network, Phase 2B, Dubai, UAE -1  
Cost: 41 Million UAE Dirham
- Tabreed District Cooling Chilled Water Pipeline Network to Satwa Union Cooperative Society, Dubai, UAE  
Cost: 5 Million UAE Dirham
- Tabreed District Cooling Chilled Water Pipeline Network connection to Durrah Tower and JAI Tower, Dubai, UAE  
Cost: 5 Million UAE Dirham
- Tabreed District Cooling Chilled Water Pipeline Network connection to Kahlid Al Attar Tower and Rolex Tower Dubai, UAE  
Cost: 8 Million UAE Dirham

Description: Work consists of supply, storing, hauling, transporting of carbon steel pre-insulated pipe, valves, fittings and other materials, site preparation, stringing, bending, trenching, welding,



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Form TECH 6  
(CONTINUED)  
CURRICULUM VITAE (CV)

field joint coating, laying, Hot tapping, backfilling, hydrostatic testing, tying in, installation of 8 nos. Heat exchanger and its associated works at primary section, pre-commissioning and commissioning, including all related civil and mechanical works. Diversion/relocation/protection of existing services in coordination with the concerned authorities. Use of NDRC which includes Microtunnelling, Thrust Boring, Pipe Jacking and Directional drilling. Road Diversions, road cutting and reinstatement.

**Responsibilities and Duties:**

- Responsible for full-time project representation and make sure that projects are being completed within time and budget.
- Construction and supervision of Chilled Water Pipeline Networks to Dubai Metro Stations, High Rise Towers, etc. Monitoring progress of Non-Disruptive Road Crossings (Micro Tunneling, Thrust Boring and Pipe Jacking).
- Responsible for reviewing and approving road cutting, road reinstatement and construction of road diversions.
- Responsible for review and approval of submittals (shop drawings, as-built drawings, prequalification documents of sub-contractors, material suppliers, materials submittals, method statement etc.).
- Responsible for the Review and approval of Project Safety Plan and Quality Plans submitted by contractor. Respond to RFIs, Contract Administration, Project Management (quality, cost, schedule, and document control), Progress measurement and certificates, Evaluation of variations and claims. Review of progress, safety and quality control reports.
- Responsible for conducting and attending weekly progress meetings for diversified projects and coordination meetings, inspections, punch-listing, certification on completion of work, recommend Provisional and Final Acceptance Certificates, witness final testing and commissioning, Liaison with client, local authority and other stakeholders.

1996-2007 With Al-Naboodah Contracting Co. LLC, Dubai, UAE

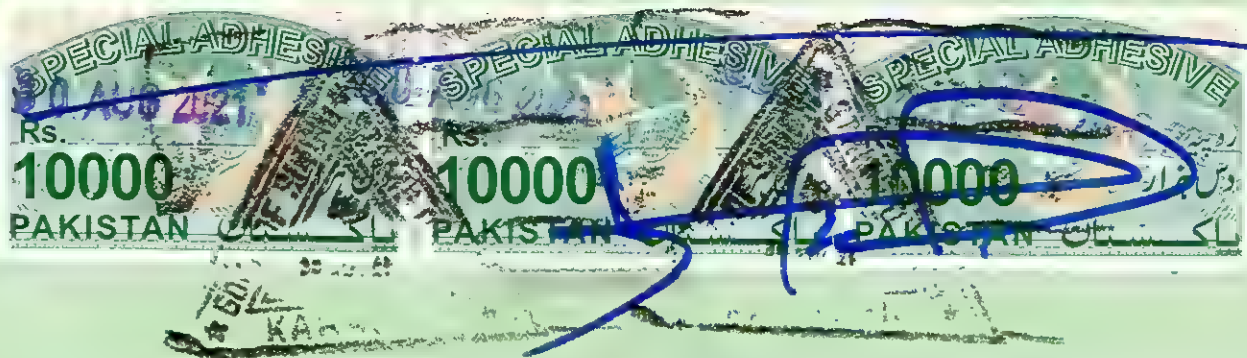
Site Engineer / Asphalt Engineer / Senior Engineer/Site Agent

- **Dubai Bypass Road Phase 111 (RTA-Dubai Municipality Project)**  
Duration: March 2006 to April 2007 – Cost: 250 Million UAE Dirham  
Description: Responsible for the construction and supervision of 22 Kilometer Dubai Bypass Road and reporting to Project Manager. Responsible for the supervision of laying of asphalt, wetmix, sub-base, earthwork, future road crossings (pipes and ducts crossing) and road markings. Responsible for monitoring subcontractor for the laying of proposed pipeline works and relocation of existing services. Preparing two weeks ahead programs, daily progress reports, material procurement and tracking etc. Assigning jobs to Supervisors, Site Engineers, Foremen and Surveyors. Responsible for monitoring the progress of earthwork, sub-base, wetmix and asphalt crews, and preparing for International Roughness Index Test of Highway (IRI Test). Liaison with RTA, local authorities and other stakeholders.
- **AX092: Taxiway North of Concourse-3, Dubai International Airport, Dubai, UAE**  
Duration: Jan 2005 to March 2006 – Cost: 200 Million UAE Dirham  
Description: Responsible for the construction and supervision of Apron (Earthwork, wetmix, Asphalt & Concreting), Taxiways, GSE Roads (Ground Service Equipment), Pavement Markings, laying of Primary and Secondary Ducts for Airfield Lighting, VDGS (Visual Docking Ground System) foundations, relocation of existing services and construction of sewerage, storm water drain, irrigation, fuel line, future duct banks and pavement markings. Supervise Site Engineers, Foremen, plant, labor and maintaining Airport Safety Regulations. Responsible for monitoring the progress of earthwork, sub-base, wetmix and asphalt crews. Liaison with consultant and Dubai civil aviation authority.
- **AX011A: Construction of Taxiway November, North of Concourse 1&2 and Echo Apron Expansion, Dubai International Airport, Dubai, UAE**  
Duration: September 2003 to Jan 2005 – Cost: 175 Million UAE Dirham  
Description: Responsible for the construction and supervision of Apron (earthwork, road base, wetmix, Asphalt & Concreting), Taxiways (earthwork, laying of sub-base, wetmix & asphalt), GSE Roads (Ground Service Equipment), Pavement Markings, laying of Primary and Secondary Ducts for Airfield Lighting, VDGS (Visual Docking Ground System) foundations, relocation of existing services and construction of sewerage, storm water drain, irrigation, fuel line and future duct banks. Responsible to supervise Site Engineers, Foremen, Plant, Labor and maintained Airport Safety Regulations.
- **Construction of Dubai Festival City Golf Course, Dubai, UAE**  
Duration: October 2002 to September 2003 – Cost: 100 Million UAE Dirham



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Form TECH 6  
(CONTINUED)  
CURRICULUM VITAE (CV)

Description: Responsible for the construction and supervision of earthwork, excavation of 13 lakes, engineering fill of 11 platforms, construction of golf course and grading for landscaping works, construction of walkways with interlocking tiles and construction of drainage system and approach roads. Responsible for supervising site engineers, surveyors, foremen, plant and labor. Liaison with Client, Consultant and local Authorities.

- Construction of Dubai Ring Road Phase-3 (RTA-Dubai Municipality Project)  
Duration: September 2001 to October 2002 – Cost: 80 Million UAE Dirham

Description: Responsible for the construction and supervision of 27 Kilometer Highway and reporting to Project Manager. Responsible for the laying of Asphalt, Wetmix, Sub-base, earthwork, future road crossing of service pipes and ducts. Preparing two weeks ahead programs, daily progress reports, wastage reports, updating progress charts, raising material and plant requisitions etc. Responsible for managing Asphalt / Wetmix laying Gangs, which includes Foremen, Operators, labor and Plant. Preparing for International Roughness Index Test of Highway (IRI Test). Liaison with RTA, local authorities and other stakeholders.

- Construction of Dubai Ring Road (RTA), Phase-1 R577/4, Awir Bridge and New Vegetable Market, Dubai, UAE

Duration: August 2000 to September 2001 – Cost: 100 Million UAE Dirham

Description: Responsible for the construction and supervision of roads, roundabouts, future ducts, bus stops, interlocking tiles, kerbs and pavement markings. Responsible for the laying of Asphalt, Wetmix, Sub-base, earthwork, future road crossing of service pipes and ducts. Preparing two weeks ahead programs, daily progress reports, material and plant requisitions etc. Responsible for constructing precast street light foundations, protection slabs etc. Liaison with RTA and consultant

- Emirates Hills Infrastructure Package 1 - Jebel Ali, Dubai, UAE.

Duration: September 1999 to August 2000 – Cost: 36 Million UAE Dirham

Description: Responsible for the construction and supervision of complete Infrastructure and directly reporting to Project Manager. Responsible for construction and supervision of Sewerage system, irrigation system, water supply system with house connections, telephone ducts, future road duct crossings, testing of pressure and gravitational pipelines, duct proving construction of roads and roundabouts, installing dewatering system, monitoring plant and manpower, making 2 weeks ahead program and preparing daily progress reports. Responsible of precast item production i.e. precast protection slabs, street light foundations, precast house connection sewerage chambers, precast telephone chambers etc. Construction of Walkways with Interlocking tiles, preparing grades for landscaping. Liaising with consultant and local authorities.

- R577/3 Dubai Ring Road (RTA) and Bridges Phase 1, Dubai UAE.

Duration: January 1999 to September 1999 – Cost: 150 Million UAE Dirham

Description: Responsible for the construction and supervision of roads, water supply system and future road duct crossings. Responsible for the laying of Asphalt, Wetmix, and Sub-base. Laying and Testing of Water supply pipeline. Responsible of precast yard activities, preparing daily progress reports and Liaison with RTA and Consultant.

- Jebel Ali Free Zone Roads 1996 Infrastructure Package, Dubai, UAE.

Duration: February 1998 to January 1999 – Cost: 30 Million UAE Dirham

Description: Responsible for the construction and supervision of complete infrastructure and directly reporting to Project Manager. Responsible for construction and supervision of Sewerage system, irrigation system, water supply system with house connections, telephone ducts, future road duct crossings, testing of pressure and gravitational pipelines, duct proving, construction of roads and roundabouts, installing dewatering system, monitoring plant and manpower, making 2 weeks ahead program, making daily progress reports, liaising with consultant and local authorities.

- TD46 Construction of New Concourse Terminal Building at Dubai International Airport, UAE.

March 1997 to February 1998 – Cost: 150 Million UAE Dirham) & Construction of Emirates

Technical Centre at Dubai International Airport, Dubai, UAE.

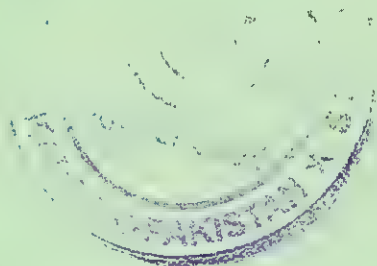
Duration: March 1997 to February 1998 – Cost.: 30 Million UAE Dirham

Description: Responsible for the construction and supervision of Apron (wetmix, Asphalt & Concreting), Taxiways (earthwork, laying of sub-base, wetmix & asphalt), GSE Roads (Ground Service Equipment), Pavement Markings, laying of future duct banks and preparing daily progress and wastage reports. Liaison with Consultant.

- TD45, Const: of North Concourse Apron and Taxiways at Dubai International Airport, UAE.

Duration: August 1996 to March 1997 – Cost: 150 Million UAE Dirham

Description: Duty includes construction and supervision of Apron (earthwork, road base, wetmix, asphalt & concreting), cold milling of existing Taxiways (earthwork, laying of sub-base, wetmix & asphalt), GSE Roads (Ground Service Equipment), Pavement Markings. Monitoring and



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Form TECH 6  
(CONTINUED)  
CURRICULUM VITAE (CV)

controlling procurement of Asphalt, wetmix and Road Base. Making daily progress and wastage reports. Liaison with Consultant Inspectors.

**Responsibilities and Duties:**

- Responsible for the construction and supervision of earth work, Piling, diaphragm Wall at Dubai International Airport.
- Monitoring Piling contractor's M/s Swiss Boring, M/s Bauer & M/s Middle East Foundation Co.
- Monitoring and controlling sub-contractor M/s Corporate Technologies for the production of steel pile cages and steel cages for Diaphragm Wall. Construction of Pile Caps and Foundation with concreting program.
- Responsible for ensuring / compliance of Airport safety Rules at site. Liaison with consultant and Dubai civil aviation authority.
- Responsible for the construction and supervision of Dubai International Airport diversified projects which includes construction of Apron (Earthwork, wetmix, Asphalt & Concreting), Taxiways, Tie-in with Runways, GSE Roads (Ground Service Equipment), Pavement Markings, laying of Primary & Secondary Ducts for Airfield Lighting, construction of future duct banks and construction of VDGS (Visual Docking Ground System) foundations.
- Construction of concourse building, construction of Emirates Hanger, construction of Sewerage System, Storm water system, Fuel Line System including tie-in with Fuel Farm.
- Responsible for the construction and supervision Roads and Highways.
- Responsible for the supervision of laying of asphalt, wet-mix, sub-base, earthwork, future road crossings (pipes and ducts crossing) and road markings.
- Preparing for International Roughness Index Test of Highway (IRI Test). Liaison with RTA, local authorities and other stakeholders.
- Responsible for construction and supervision of proposed utilities/pipeline works which includes Sewerage system, irrigation system, water supply system, telephone ducts, future road duct crossings, testing of pressure and gravitational pipelines, duct proving, installing dewatering system etc.
- Responsible for the construction and supervision of earthwork, excavation of 13 lakes, engineering fill of 11 platforms, construction of golf course and grading for landscaping works, construction of walkways with interlocking tiles.
- Responsible of precast item production i.e. precast protection slabs, street light foundations, precast house connection sewerage chambers, precast telephone chambers etc.
- Construction of Walkways with Interlocking tiles, preparing grades for landscaping. Liaising with consultant and local authorities.

1986- With Local Municipality, Road and Drainage Division, Karachi, Pakistan  
1996 Assistant Executive Engineer

**Project:**

- Diversified projects of the development and supervision of road and drainage (Pipeline) system of Scheme no. 33 for 1.8 million inhabitants.
- Description: Construction of Asphaltic Roads Networks includes Major and Minor Roads, especially major roads from Safoorah Goth to Malir Cant area. Construction of Drainage System with RCC pipeline. Construction of Water supply Network by using AC pipes.

**Responsibilities and Duties:**

- Responsible for the Construction and supervision of Major and Minor Asphaltic Roads. Construction, supervision and commissioning of Water supply (pipeline) System, Storm Water Drainage pipeline system and Sewerage pipeline system projects. Preparing project estimates and office administration.

Expert's contact information: Email:  
Phone:

Certification:

I, the undersigned, certify that to the best of my knowledge and belief, this CV correctly describes myself, my qualifications, and my experience, and I am available to undertake the assignment in case of an award. I understand that any misstatement or misrepresentation described herein may lead to my disqualification or dismissal by the Client, and/or sanctions by the Bank

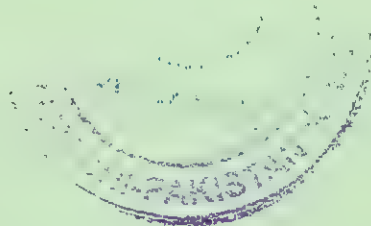
Name of Expert: SALAHUDDIN AHMAD SHAIKH

Date: 18/12/2020

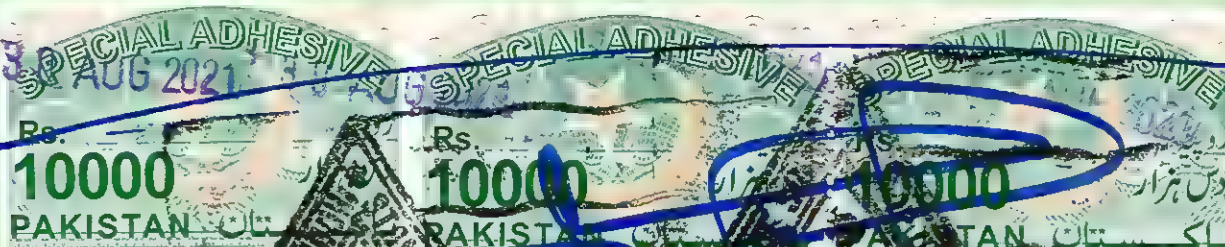
Name of Authorized Representative: BASSAM T. SHAKHSHIR

Date: 18/12/2020

Date: 18/12/2020



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(CONTINUED)  
CURRICULUM VITAE (CV)

Position Title and No. Chief Resident Engineer

Name of Expert: MOHAMMAD KALLOUSH

Date of Birth: 13/03/1959

Country of Citizenship/Residence Jordanian / U. A. E.

Education:

Bachelor of Engineering, Civil Engineering, Bangalore University, India, 1983

Employment record relevant to the assignment:

Period	Employing Organisation and your title/position. Contact info for references	Country	Summary of activities performed relevant to the Assignment
2019 to date	Dar Al-Handasah Consultants (Shair and Partners) Senior Resident Engineer	United Arab Emirates	Overall management of supervision teams, issuing directives and following up on work progress, budget/cost control, scheduling, QA/QC and safety in addition to resolving any issue of contention with contractors including fair determination of construction claims. Work closely with the design team, supervision staff, contractors, and client to keep the project progress monitored and take appropriate actions when necessary to ensure timely completion of the project.
2019	CDM Smith Inc. Senior Resident Engineer	United Arab Emirates	Overall management of supervision teams, issuing directives and following up on work progress, budget/cost control, scheduling, QA/QC and safety in addition to resolving any issue of contention with contractors including fair determination of construction claims. Work closely with the design team, supervision staff, contractors, and client to keep the project progress monitored and take appropriate actions when necessary to ensure timely completion of the project.
2017 - 2018	Parsons Overseas Limited Senior Resident Engineer	United Arab Emirates	Overall management of supervision teams, issuing directives and following up on work progress, budget/cost control, scheduling, QA/QC and safety in addition to resolving any issue of contention with contractors including fair determination of construction claims. Work closely with the design team, supervision staff, contractors, and client to keep the project progress monitored and take appropriate actions when necessary to ensure timely completion of the project.
2012 - 2017	Aqleh Engineering Consultant Senior Resident Engineer	United Arab Emirates	Overall management of supervision teams, issuing directives and following up on work progress, budget/cost control, scheduling, QA/QC and safety in addition to resolving any issue of contention with contractors including fair determination of construction claims. Work closely with the design team, supervision staff, contractors, and client to keep the project progress monitored and take appropriate actions when necessary to ensure timely completion of the project.
2010 - 2012	WS Atkins & Partners Overseas Senior Resident Engineer	United Arab Emirates	Overall management of supervision teams, issuing directives and following up on work progress, budget/cost control, scheduling, QA/QC and safety in addition to resolving any issue of contention with contractors including fair determination of construction claims. Work closely with the design team, supervision staff, contractors, and client to keep the project progress monitored and take appropriate actions when necessary to ensure timely completion of the project.



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CURRICULUM VITAE (CV)

2009 - 2010	Senior Resident Engineer	United Arab Emirates	Overall management of supervision teams, issuing directives and following up on work progress, budget/cost control, scheduling, QA/QC and safety in addition to resolving any issue of contention with contractors including fair determination of construction claims. Work closely with the design team, supervision staff, contractors, and client to keep the project progress monitored and take appropriate actions when necessary to ensure timely completion of the project.
2007 - 2008	Yüksel İnşaat A.Ş. Project Director	Saudi Arabia	Overall management of supervision teams, issuing directives and following up on work progress, budget/cost control, scheduling, QA/QC and safety in addition to resolving any issue of contention with contractors including fair determination of construction claims. Work closely with the design team, supervision staff, contractors, and client to keep the project progress monitored and take appropriate actions when necessary to ensure timely completion of the project.
2006 - 2007	CDM Smith Inc. Senior Resident Engineer	United Arab Emirates	Overall management of supervision teams, issuing directives and following up on work progress, budget/cost control, scheduling, QA/QC and safety in addition to resolving any issue of contention with contractors including fair determination of construction claims. Work closely with the design team, supervision staff, contractors, and client to keep the project progress monitored and take appropriate actions when necessary to ensure timely completion of the project.
2005 - 2006	Parsons - De Leuw Cather Overseas Limited Senior Resident Engineer	United Arab Emirates	Work closely with the design team, supervision staff, contractors, and client to keep the project progress monitored and take appropriate actions when necessary to ensure timely completion of the project.
2001 - 2005	ITALCONSULT Resident Engineer	United Arab Emirates	Overall management of supervision teams, issuing directives and following up on work progress, budget/cost control, scheduling, QA/QC and safety in addition to resolving any issue of contention with contractors including fair determination of construction claims. Work closely with the design team, supervision staff, contractors, and client to keep the project progress monitored and take appropriate actions when necessary to ensure timely completion of the project.
1997 - 2001	Hyder Consulting Middle East Ltd. Resident Engineer	United Arab Emirates	Responsible for construction activities including management of supervision teams, coordination of design & technical information, attention to work progress and sequence of activities.
1994 - 1997	ITALCONSULT Assistant Resident Engineer	United Arab Emirates	Responsible for construction activities including management of supervision teams, coordination of design & technical information, attention to work progress and sequence of activities.
1991 - 1994	Hamza Al Khofash Eng. Office Resident Engineer	Jordan	Responsible for construction activities including management of supervision teams, coordination of design & technical information, attention to work progress and sequence of activities.
1984 - 1990	National Housing Authority Assistant Resident Engineer	Kuwait	Responsible for construction activities including management of supervision teams, coordination of design & technical information, attention to work progress and sequence of activities.





30 AUG 2019

(CONTINUED) 30 AUG 2019

CURRICULUM VITAE (CV)

Membership in Professional Associations and Publications:

Jordan Engineers Association  
Kuwait Society of Engineers  
Society of Engineers, UAE

Language Skills	Reading	Writing	Understanding
Arabic	Excellent	Excellent	Excellent
English	Excellent	Excellent	Excellent

#### Adequacy for the Assignment:

##### Detailed Tasks Assigned:

Refer to TECH-5  
and TECH-6

#### Reference to Prior Work/Assignments that Best Illustrates Capability to Handle the Assigned Tasks

Since 2019 to date With Dar Al-Handasah Consultants (Shair and Partners), Site Operations Dept.

##### Senior Resident Engineer

##### Project:

Al Khail Mall at Jumeirah Village Triangle - Access Roads and Bridges, United Arab Emirates. Detailed design, tender documents and supervision of construction for 4 flyovers of a total length of 880 m with a total ramp length of 345 m and 2,251 m of surface connecting roads to Al Khail Mall.

##### Flyovers and ramps details:

- Flyover 1 : Bridge = 228m , Ramp = 132m
- Flyover 2 : Bridge = 500m , Ramp = 90m
- Flyover 3 : Bridge = 86m , Ramp = 123m
- Flyover 4 : Bridge = 66m , No Ramp

##### Duties and Responsibilities:

- Overall management of supervision teams, issuing directives and following up on work progress, budget/cost control, scheduling, QA/QC and safety in addition to resolving any issue of contention with contractors including fair determination of construction claims.
- Work closely with the design team, supervision staff, contractors, and client to keep the project progress monitored and take appropriate actions when necessary to ensure timely completion of the project.
- Establishes, provide guidance regarding scope of work, schedules, procedures, field construction problems and maintain close working relationship with project design engineering, client representatives and contractors.
- Monitors contractor performance pertaining to schedule and conformance to plan and specifications perform technical reviews and evaluations.
- Conduct performance evaluations for assigned personnel.
- Review contract program and assessment of progress.
- Frequently interface with upper level management and client personnel keep them informed of the progress relay potential problems that may affect the project, so a prompt action can be made.
- Prepare technical reports and conduct high quality presentations when needed.
- Performs other responsibilities associated with this position as may be appropriate.

2019

With CDM Smith Inc., United Arab Emirates,

##### Senior Resident Engineer

##### Project:

- Pedestrian Bridges at Various Locations In Dubai (R1088)
- Cost: AED 58,876,885.00
- The Project consist of the Construction of three pedestrian bridges at the following locations:
  - Junction 415 ramp at Jumeriah Beach Residence Area (Design and Build)
  - Khalid Bin Waleed street
  - Al Marabea Street
- The complexity in the project to obtain traffic diversion.

##### Duties and Responsibilities:

Overall management and direction of construction Team Engineers and Inspectors for the supervision of project works by planning, directing, supervising and controlling the execution of technical and administrative functions of the project and participate in determining the technical skills & staff hours required for successful completion of the project in accordance with the contractual agreements.







30 AUG 21  
KARACHI

(CONTINUED)  
CURRICULUM VITAE (CV)

30 AUG 21

Project management and daily supervision of all construction works, resolving site problems and coordination of various site activities, approval of materials and variation orders, payment certificate checking and approval, review of shop and design drawings, developing specifications and procedures of works.

2017 - 2018 With Parsons Overseas Limited, United Arab Emirates,

Senior Resident Engineer.

Project:

- ER Community at Dubai Land-Villanova, consisting of roads and utilities; sewerage, drainage, irrigation, road lighting water network. Project Area: 207 hectares.
- Cost: AED 211,000,000.00
- The project consists of construction of the roads and Utility services for the ER community at Dubai Land – Villa Nova Development Package 1

Duties and Responsibilities:

- Overall management and direction of construction Team Engineers and Inspectors for the supervision of project works by planning, directing, supervising and controlling the execution of technical and administrative functions of the project and participate in determining the technical skills & staff hours required for successful completion of the project in accordance with the contractual agreements.
- Project management and daily supervision of all construction works, resolving site problems and coordination of various site activities, approval of materials and variation orders, payment certificate checking and approval, review of shop and design drawings, developing specifications and procedures of works.
- Establish and maintain close working relationship with project design engineering, client representatives and contractors.
- Frequently interface with upper level management and client personnel keep them informed of the progress relay potential problems that may affect the project, so a prompt action can be made.

2012 - 2017 With Aqleh Engineering Consultant, United Arab Emirates,

Senior Resident Engineer.

Projects:

Roads in Khawaneej - First Roads 70 km and Utilities; Area: 2000 hectare

- Cost: AED 99,721,568.00
- Project consist of 70 Km road works with all utilities storm water, street lighting, telecommunication. One traffic signal intersection the complexity was to provide access for residents.

Meydan Gated Community.

- Cost: AED 78,000,000.00
- Roads and Utilities, Drainage, Sewerage, Irrigation, Fire Fighting, Etisalat, Water Network, HV & LV Cables and Substation and Roads Lighting., the complexity was to coordinate the site activities between infrastructure contractor and building contractor.

Mohammad Bin Rashid Al Maktoum City-District One

- Cost AED 543,356,524.90
- Package 1 Area 33hr. Package 2 Area 7 hr.
- The project consists of roads, utilities, Underpasses 2 No's, Lagoon vehicular bridge 102m, landscaping works and Meydan district one Crystal lagoon cover area 1.4 hr. with depth 2.45 m and perimeter length 578m
- The complexity was in coordination site activities between infrastructure and building contractor.

Duties and Responsibilities:

- overall site management of supervision teams, manage delivery of project(s), establish and lead the project team; provide direction and technical guidance to Senior Engineers/Engineers and Inspectors within assigned area of responsibility to ensure that quality management and technical services are provided to clients and that operating performance targets are met, supervise, monitor and report project progress to ensure on time completion.
- Project management and daily supervision of all construction works, resolving site problems and coordination of various site activities, approval of materials and variation orders, payment certificate checking and approval, review of shop and design drawings, developing specifications and procedures of works.
- Establish and maintain close working relationship with project design engineering, client representatives and contractors.
- Frequently interface with upper level management and client personnel keep them informed of the progress relay potential problems that may affect the project, so a prompt action can be made.



2010 - 2012 With WS Atkins & Partners Overseas, United Arab Emirate,

Senior Resident Engineer.

Projects:



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KARALI CURRICULUM VITAE (CV)

Layed Sports City Infrastructure Works Package 1 Contract No. C51002: Roads and Utilities; Sewerage, Drainage, Irrigation, Road Lightings Water Network.

Duration: 2 Years

Cost: AED 27,805,999.00

The complexity was lack of possession of site for infrastructure contractor.

**Duties and Responsibilities:**

- Overall site management of supervision teams, manage delivery of project(s), establish and lead the project team; provide direction and technical guidance to Senior Engineers/Engineers and Inspectors within assigned area of responsibility to ensure that quality management and technical services are provided to clients and that operating performance targets are met, supervise, monitor and report project progress to ensure on time completion.
- Provide guidance regarding scope of work, schedules, procedures, field construction problems and other technical information.
- Provide the required leadership to the team and assigns work tasks for the proper execution of the work.
- Establish, monitor and maintain construction engineering quality control in the field.
- Collaborate with construction managements to eliminate any hazards associated with the work that may adversely affect the environment or the safety or health of employees.
- Establish and maintain close working relationship with project design engineering, client representatives and contractors.
- Maintain project control documentations, design drawings and specifications and variations orders.
- Review and approve of materials submittals, shop drawings and method statements and follow up with the client as applicable.
- Monitors contractor performance pertaining to schedule and conformance to plan and specifications perform technical reviews and evaluations.
- Conduct performance evaluations for assigned personnel.
- Review contract program and assessment of progress.
- Frequently interface with upper level management and client personnel keep them informed of the progress and potential problems that may affect the project, so a prompt action can be made.
- Prepare technical reports and conduct high quality presentations when needed.
- Performs other responsibilities associated with this position as may be appropriate.

2009 - 2010 With CDM Smith Inc., United Arab Emirates,

Senior Resident Engineer.

Project:

- Dubai Bypass Road Landscaping Works and Irrigation Network
- Duration: 9 Months
- The project consists of the irrigation and landscaping works, irrigation network and plantation for Dubai bypass 24km for dual carriage way.

Duties and Responsibilities:

- Overall site management of supervision teams, manage delivery of project(s), establish and lead the project team; provide direction and technical guidance to Senior Engineers/Engineers and Inspectors within assigned area of responsibility to ensure that quality management and technical services are provided to clients and that operating performance targets are met, supervise, monitor and report project progress to ensure on time completion.
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- Prepare technical reports and conduct high quality presentations when needed.
- Performs other responsibilities associated with this position as may be appropriate.

2007 - 2008 With Yuksel Insaat A.S, Saudi Arabia,

Project Director.







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**CURRICULUM VITAE (CV)**

Project: **Eastern Province Water Transmission System – Phase 2, consisting of 133 km.**

- Cost: SAR 1,500,000,000.00
- The project is located on the North-South Line Parallel to the Sea Shore between the cities of Jubail, Dammam and Al Khobr which are located in Saudi Arabia's industry developed eastern region. The purpose of the project is to transfer 500,000 cu. m / day treated water from the New Marafia Desalination plant in Jubail to the city of Dammam passing through the cities of Safwa, Qqatif and Sayah via main steel pipe line, the dia varies from 60" to 76" and via steel water tanks and pumping station.
- The complexity was in obtaining construction NOC's authorities.

**Duties and Responsibilities:**

- Overall site management of supervision teams, manage delivery of project(s), establish and lead the project team; provide direction and technical guidance to Senior Engineers/Engineers and Inspectors within assigned area of responsibility to ensure that quality management and technical services are provided to clients and that operating performance targets are met, supervise, monitor and report project progress to ensure on time completion.
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- Establish, monitor and maintain construction engineering quality control in the field.
- Collaborate with construction managements to eliminate any hazards associated with the work that may adversely affect the environment or the safety or health of employees.
- Establish and maintain close working relationship with **project design engineering, client representatives and contractors.**
- Maintain project control documentations, design drawings and specifications and variations orders.
- Review and approve of materials submittals, shop drawings and method statements and follow up with the client as applicable.
- Monitors contractor performance pertaining to schedule and conformance to plan and specifications perform technical reviews and evaluations.
- Conduct performance evaluations for assigned personnel.
- Review contract program and assessment of progress.
- **Frequently interface with upper level management and client personnel keep them informed of the progress and potential problems that may affect the project, so a prompt action can be made.**
- Prepare technical reports and conduct high quality presentations when needed.
- Performs other responsibilities associated with this position as may be appropriate.

**2006 - 2007 With CDM Smith Inc., United Arab Emirates,**

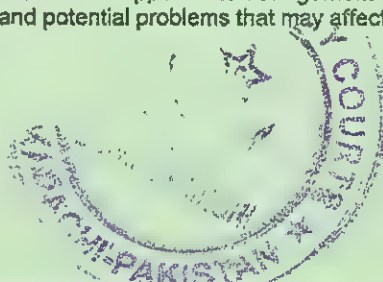
**Senior Resident Engineer.**

**Project:**

- R762/1 - Widening of Existing Dubai Bypass – RTA.
- Widening of Dubai Existing Bypass 23km from 2 lanes to 6 lanes. One bridge from Ras Al Khor road crossing Dubai Pass.

**Duties and Responsibilities:**

- Overall site management of supervision teams, manage delivery of project(s), establish and lead the project team; provide direction and technical guidance to Senior Engineers/Engineers and Inspectors within assigned area of responsibility to ensure that quality management and technical services are provided to clients and that operating performance targets are met, supervise, monitor and report project progress to ensure on time completion.
- Provide guidance regarding scope of work, schedules, procedures, field construction problems and other technical information.
- Provide the required leadership to the team and assigns work tasks for the proper execution of the work.
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- Monitors contractor performance pertaining to schedule and conformance to plan and specifications perform technical reviews and evaluations.
- Conduct performance evaluations for assigned personnel.
- Review contract program and assessment of progress.
- **Frequently interface with upper level management and client personnel keep them informed of the progress and potential problems that may affect the project, so a prompt action can be**



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(CONTINUED)  
CURRICULUM VITAE (CV)

- Prepare technical reports and conduct high quality presentations when needed.
- Performs other responsibilities associated with this position as may be appropriate.

2005 - 2006 With Parsons - De Leuw Cather Overseas Limited, United Arab Emirates,

Senior Resident Engineer.

Project:

- Beautification of Jumeirah Road, Dubai. R924/3
- Duration: 1 Year
- The project consists of existing Jumeirah road 15 Km with parallel parking and foot path traffic signals with 50 No's speed radars.
- The complexity was in traffic diversion approval and huge existing services protection and relocation outside carriage way.

Duties and Responsibilities:

- Overall site management of supervision teams, manage delivery of project(s), establish and lead the project team; provide direction and technical guidance to Senior Engineers/Engineers and Inspectors within assigned area of responsibility to ensure that quality management and technical services are provided to clients and that operating performance targets are met, supervise, monitor and report project progress to ensure on time completion.
- Provide guidance regarding scope of work, schedules, procedures, field construction problems and other technical information.
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- Monitors contractor performance pertaining to schedule and conformance to plan and specifications perform technical reviews and evaluations.
- Conduct performance evaluations for assigned personnel.
- Review contract program and assessment of progress.
- Frequently interface with upper level management and client personnel keep them informed of the progress and potential problems that may affect the project, so a prompt action can be made.
- Prepare technical reports and conduct high quality presentations when needed.
- Performs other responsibilities associated with this position as may be appropriate.

2001 - 2005 With ITALCONSULT, United Arab Emirates,

Resident Engineer.

Projects:

- R810-Roads and Footpath in Al Bada'a, Dubai-RTA. Construction of new roads and rehabilitation work.
- R512/1-Roads in Al Quoz Industrial Area, Phase 2. Construction of the remaining interior road system built under Contract R512 in year 1995 and associated infrastructure within the Al Quoz Industrial Area
- R652-Footpath in Hudaibah Area (Comm. 322)

Duties and Responsibilities:

- Overall site management of supervision teams, manage delivery of project(s), establish and lead the project team; provide direction and technical guidance to Senior Engineers/Engineers and Inspectors within assigned area of responsibility to ensure that quality management and technical services are provided to clients and that operating performance targets are met, supervise, monitor and report project progress to ensure on time completion.
- Provide guidance regarding scope of work, schedules, procedures, field construction problems and other technical information.
- Provide the required leadership to the team and assigns work tasks for the proper execution of the work.
- Establish, monitor and maintain construction engineering quality control in the field.
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- Establish and maintain close working relationship with project design engineering, client representatives and contractors.
- Maintain project control documentations, design drawings and specifications and variations orders.
- Review and approve of materials submittals, shop drawings and method statements and follow up with the client as applicable.
- Monitors contractor performance pertaining to schedule and conformance to plan and



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(CONTINUED)  
**CURRICULUM VITAE (CV)**

- specifications perform technical reviews and evaluations.
- Conduct performance evaluations for assigned personnel.
- Review contract program and assessment of progress.
- Frequently interface with upper level management and client personnel to keep them informed of the progress and potential problems that may affect the project, so a prompt action can be made.
- Prepare technical reports and conduct high quality presentations when needed.
- Performs other responsibilities associated with this position as may be appropriate.

**1997 - 2001 With Hyder Consulting Middle East Ltd., United Arab Emirates,  
Resident Engineer.**

**Projects:**

- **R278/2-Roads in Al Quoz Residential Area.** Construction of roads and services in Al Quoz Residential Area.
- **R527/3-Paving of Roads & Sikkas in Ras Area, Phase 3.** Construction/ reconstruction of a number of road and associated services. Block paving of certain Sikkas. Sewerage existing pipes NDRC, upsizing, downsizing, relining for existing five pipe line networks and manholes live rehabilitations. The complexity working in very congested market area.
- **R564 Junction Improvements in Deira and Bur Dubai-DM.** Removal of existing three roundabouts and construction of grade signalized junction of dual two lane and three land road and associated service road works.
- **Worked on the construction/reconstruction of a number of road and associated services.**

**Duties and responsibilities:**

- Responsible for construction activities including management of supervision teams, coordination of design & technical information, attention to work progress and sequence of activities.

**1994 - 1997 With ITALCONSULT, United Arab Emirates,  
Assistant Resident Engineer.**

**Projects:**

- **R580-Roads and Ancillary Works in Port Rashid.** Roads construction and services at Rashid Port.
- **R317/2-Trade Center Roundabout Interchange.** The scope of the project is the construction of Major Highway Interchange located in the urban area of Dubai. The work comprises three underpass, four bridges and related services works.
- **R510-Za'abeel Road/Al Quateyat Road Interchange.** Construction of a major highway interchange at the intersection of Za'abeel Road with Al Quateyat Road and the construction of five major underpasses and related services..

**Duties and responsibilities:**

Responsible for construction activities including management of supervision teams, coordination of design & technical information, attention to work progress and sequence of activities.

**1991 - 1994 With Hamza Al Khofash Eng. Office, Jordan,  
Resident Engineer.**

**Project:** Private villas and residential buildings.

**Duties and responsibilities:**

Responsible for construction activities including management of supervision teams, coordination of design & technical information, attention to work progress and sequence of activities.

**1984 - 1990 With National Housing Authority, Kuwait,  
Assistant Resident Engineer.**

**Projects:**

- **Queen Housing Project.** Construction of 12,500 Housing Unit, Roads, Car Parking, Mosque, School, Health Clinic and Shopping Center.
- **South Rabia Housing Project.** 450 Housing Unit, Roads, Car Parking, Mosque, Health Clinic and Shopping Center.
- **Sewaber Housing Project.** 33 Building (462 housing apartment, school, clinic, mosque, roads, car parking)

**Duties and responsibilities:**

Responsible for construction activities including management of supervision teams, coordination of design & technical information, attention to work progress and sequence of activities.

**Expert's contact information:** email: Mohammad.Kalloush@dar.com, phone:

**Certification:**

I, the undersigned, certify that to the best of my knowledge and belief, this CV correctly describes myself, my qualifications, and my experience, and I am available to undertake the assignment in case of an award. I understand that any misstatement or misrepresentation described herein may lead to my disqualification or dismissal by the Client, and/or sanctions by the Bank

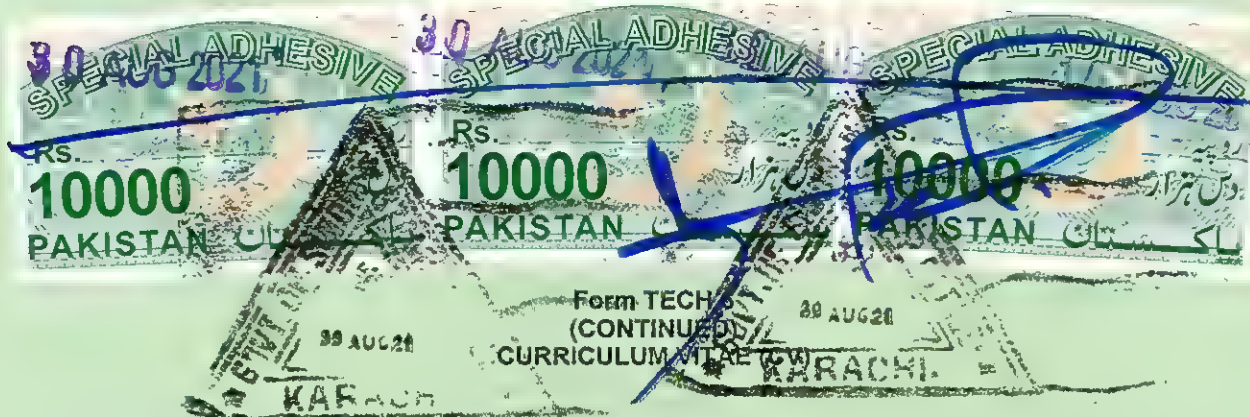
**Name of Expert:** MOHAMMAD KALLOUSH

**Date:** 10/01/2021

**Name of authorized Representative:** BASSAM T. SHAKHSHIR

**Date:** 10/01/2021





Position Title and No. Senior Pavement Engineer  
 Name of Expert: ISLAM MAMDOUH AWAD  
 Date of Birth: 13/03/1976  
 Country of Citizenship/Residence Egyptian / CAIRO

**Education:**

PhD, Civil Engineering - Geotechnical, Water Resources Management and Environment, Kyushu University, Japan, 2008

Master, Advanced Studies in Hydraulic Engineering, Ecole Polytechnique Fédérale de Lausanne, Suisse, 2005

BSc, Civil Engineering, Alexandria University, Egypt, 1999

**Employment record relevant to the assignment:**

Period	Employing Organisation and your title/position. Contact info for references	Country	Summary of activities performed relevant to the Assignment
2008 to date	Dar Al-Handasah Consultants (Shair and Partners) Senior Geotechnical/Pavement Engineer	Egypt	Participated in the preparation and analysis of geotechnical site investigations, foundation and pavement design, and preparation of geotechnical reports
2005 - 2008	Laboratory of Geotechnical Engineering, Department of Civil and Structural Engineering, Kyushu University, Fukuoka Research Assistant	Japan	Participated in research activities towards the improvement of erosive volcanic soils located in Kagoshima and Miyazaki Prefectures, South of Japan
2003 - 2005	Laboratory of Hydraulic Constructions, Civil Engineering Section of the School of Environmental, Civil and Architectural Engineering, Ecole Polytechnique Fédérale de Lausanne (EPFL), Lausanne Research Associate/Trainee Engineer	Switzerland	Participated in research activities
2002 - 2003	Arabian International Contractors (AIC) Site Engineer	Egypt	Worked on the construction of West Alexandria Wastewater Treatment Plant with a capacity of 500,000 m <sup>3</sup> /day. Project value: USD 200 million (financed by USAID). Responsible for site marking out, applying designs and plans, liaison with subcontractors, organisation and supervision of materials and human resources, and ensuring proper implementation of site security, health and
2001 - 2002	Blue Sky Company for Construction Site Engineer	Egypt	Worked on the Marine Works for North West Gulf of Suez Thermal Power Plant Project (combined cycle turbines with a capacity of 2x341 MW), Egypt. Project value: USD 340 million. Responsible for site management, and quantity surveying in addition to carrying out various technical and contractual activities.
2000 - 2001	Military service Site Engineer	Egypt	During the same period, carried out various site supervision tasks on Sinai and Worked on the supervision and inspection of site construction works for various military residential and facility projects in Alexandria, Egypt.

**Membership in Professional Associations and Publications:**

Egyptian Syndicate of Engineers, since 1999. Registration No.2/2198

Japan Society of Civil Engineers (JSCE)

Japan Geotechnical Society (JGS)



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ISLAM MAMDUR AWAD

Page 2

**Publications:**

**Articles in Conferences:**

Islam Awad, Giovanni De Cesare, Anton Schleiss, Reto Zuglian, "Potential of sediment transfer in a shallow storage lake, numerical modeling to assess the efficiency of technical solutions and their optimisation", Proceedings of Hydro 2005: Policy into Practice, 17-20 October 2005, Villach, Austria, 15.11, pp. 1-8.

Giovanni De Cesare, Islam Awad, Anton Schleiss and Reto Zuglian. "Verlandungsmechanismen und Lösungsansätze zum Sedimenttransfer im Speicher Gubsensee (Schweiz)", Proceedings of the Symposium Graz 2006 "Stauhaltungen und Speicher - Von der Tradition zur Moderne", Schriftenreihe zur Wasserwirtschaft, Technische Universität, Graz, ISBN 3-902465-50-6, 46/1, Graz, Austria, pp. 210-221, 27-30 September 2006.

Islam Awad, Noriyuki Yasufuku and Hidetoshi Ochiai. "Development of New Erosion control apparatus for high erodible volcanic ash sandy soil", Proceedings of the 4th Asian Joint Symposium on Geotechnical Geo-Environmental Engineering (JS-Dalian 2006), Dalian, China, pp. 415-418, November 2006.

Islam Awad, Noriyuki Yasufuku and Hidetoshi Ochiai. "Erodibility of unsaturated volcanic ash sandy soils related to degree of compaction", Proceedings of the 3rd Asian Conference on Unsaturated Soils, Nanjing, China, pp. 169-174, 21-23 April 2007.

Islam Awad, Noriyuki Yasufuku and Hidetoshi Ochiai. "Chemical compounds effect on critical shear stress and erodibility of volcanic ash soil", Proceedings of the First Egypt-Japan International Symposium on Science and Technology, Tokyo, Japan, pp. 133, 8-10 June 2008.

Islam Awad, Noriyuki Yasufuku and Hidetoshi Ochiai. "Chemical compounds effects on erodibility of volcanic ash soils", 4th International Conference on Scour and Erosion (submitted and accepted), Tokyo, Japan, 5-7 November 2008.

**Articles in Journals:**

Islam Awad, Noriyuki Yasufuku and Hidetoshi Ochiai, "Erosion rates of soils improved by chemical additives for protection against overland flow", Memoirs of the Faculty of Engineering, Kyushu University, Vol. 67, No. 4, pp. 153-164, December 2007.

**Short Notes:**

Islam Awad, Noriyuki Yasufuku and Hidetoshi Ochiai. "Estimation of runoff critical shear stress for volcanic soil erosion from soil shear strength", Proceedings of the 43rd Annual Meeting of Japanese Geotechnical Society (JNCGE), Hiroshima, Japan, D-04, pp.769-770, July 2008.

Islam Awad, Giovanni De Cesare, Anton Schleiss, Reto Zuglian, Noriyuki Yasufuku and Hidetoshi Ochiai. "Numerical 3D modeling and optimisation of technical measures to reduce sedimentation inside lakes", Proceedings of the Annual Meeting of Western Part of the Japanese Society of Civil Engineering, Miyazaki, Japan, III-055, pp. 485-486, 4 March 2006.

Islam Awad, Noriyuki Yasufuku and Hidetoshi Ochiai. "Development of new erosion control apparatus for high erodible volcanic ash sandy soil", Proceedings of the Annual Meeting of Western Part of the Japanese Society of Civil Engineering, Kita Kyushu, Japan, III-079, pp. 515-516, 10 March 2007.

Islam Awad, Giovanni De Cesare, Anton Schleiss, Reto Zuglian, Noriyuki Yasufuku and Hidetoshi Ochiai. "Numerical 3D modeling and optimisation of technical measures to reduce sedimentation inside lakes", Proceedings of the Annual Meeting of Western Part of the Japanese Society of Civil Engineering, Miyazaki, Japan, III-055, pp. 485-486, 4 March 2006.

**Technical Reports:**

Awad, I. and De Cesare, G. (2004), "Sedimentation in the Gubsensee - Numerical modeling and optimisation of technical solutions to reduce sedimentation of the reservoir", LCH-EPFL-Activity Report 2004, p. 84.

Awad, I. and De Cesare, G. (2005), "Sedimentation in the Gubsensee - Numerical modeling and optimisation of technical measures to reduce sedimentation inside the lake", LCH-EPFL-Activity Report 2005, p. 31.

Language Skills	Reading	Writing	Understanding
Arabic	Excellent	Excellent	Excellent
English	Excellent	Excellent	Excellent
French	Excellent	Excellent	Excellent



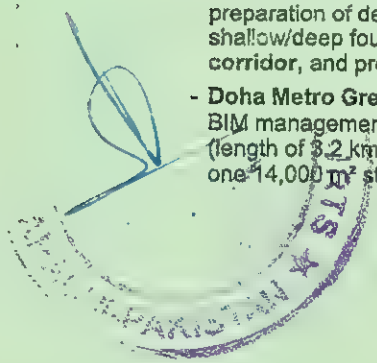
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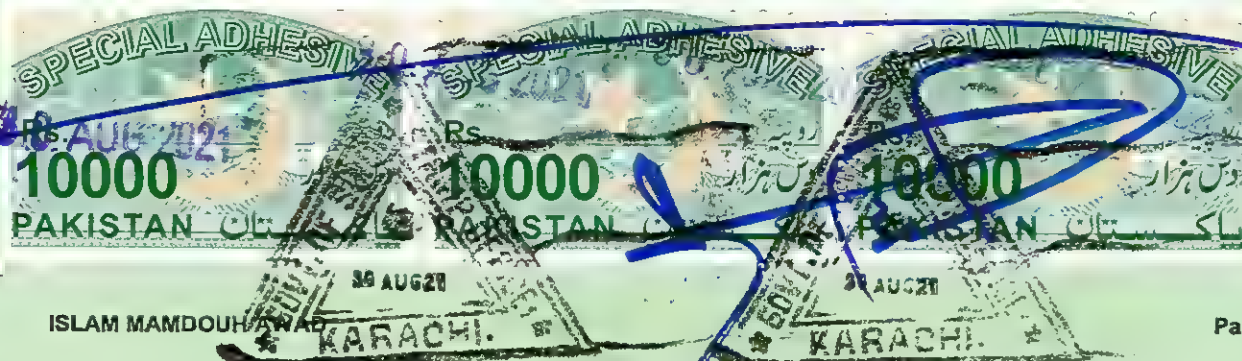
Adequacy for the Assignment:

<b>Detailed Tasks Assigned:</b> Refer to TECH-5 and TECH-6	<b>Reference to Prior Work/Assignments that Best Illustrates Capability to Handle the Assigned Tasks</b>
	<b>Since 2008 With Dar Al-Handasah Consultants (Shair and Partners), Geotechnical &amp; Heavy Civil Engineering Dept.</b>
	<b>2008 to date Senior Geotechnical/Pavement Engineer</b>
	<p>Participated in the preparation and analysis of geotechnical site investigations, foundation and pavement design, and preparation of geotechnical reports for the following projects:</p> <ul style="list-style-type: none"><li>- Central Business District at the New Administrative Capital - Planning, Landscape and Infrastructure, Egypt. Master plan development for the Central Business District-East, covering a site area of 810,600 m<sup>2</sup>.</li><li>- Upgrading of The Rwenkunye-Apac-Lira-Acholibur Road (191km), Uganda. Design review and supervision for the upgrade of two single-carriageway lots (total distance of 191 km) along the Rwenkunye – Apac – Lira – Acholibur road, a Class C gravel road connecting the western and northern parts of Uganda. Prior to upgrade, the road's condition was considered poor, characterised by surface corrugations, potholes, deformations, and poor drainage facilities.</li><li>- Infrastructure Design for Ibom Industrial City - Phase 1, Nigeria. Detailed design and tender documents for all infrastructure components related to a 2,000 ha site, covering sewage collection, stormwater drainage and flood protection measures, potable and fire-fighting water supply, landscape irrigation, and others.</li><li>- CP07-B - Lusail Towers Infrastructure, LRT Station, Car-Park and Landscape, Qatar. Detailed design (under BIM management and achieving GSAS 4 stars), tender documents, and technical assistance during construction for various project components, including a 2-level tunnel along Road A1, combined LRT station of an area of 14,0000 m<sup>2</sup>, multi-storey underground car-park, bridge at Junction No.19, six 11 kV substations, wet infrastructure utilities (sewerage, irrigation, drainage), public realm features, and integration of gas, district cooling and pneumatic waste collection systems, and other enabling works.</li><li>- Roads Connecting Sabah Al Ahmad and Khiran New Towns, Kuwait. Design, tender documents, tender management and supervision of works for the upgrading of Road 306 from Shuhaiba Industrial area to Wafra with a length of 38 km and including 2 interchanges, upgrading of Road 309 from Mina Al Zur Interchange to Wafra Farms' existing roundabout with a length of 29 km and including one interchange, upgrading the existing link road (7 km) and construction of a new one (25 km) between Road 306 and Road 309, and construction of new link roads between Nawaseeb Road and Sabah Al Ahmad Town (length of 15 km) as well as between Sabah Al Ahmad and Khiran Towns (14 km). Total length of roads: 128 km.</li><li>- Streetscape and Station Design for Riyadh Bus Rapid Transit (BRT) Network, Saudi Arabia. Detailed designs for the streetscape works (hard and soft) of sidewalks along entire BRT corridors (65 km). Works include creating a pedestrian-friendly environment that is consistent with the vision of the new public transport system. The scope also include the design of 2 terminal stations, 55 in-line stations, 4 park-and-ride sites, 35 pedestrian bridges, 4 types of community bus shops, and 1 type of feeder bus stops.</li><li>- Oshodi to Obalende (via Mile 2) Bus Rapid Transit System, Nigeria. Detailed design and tender documents for a Bus Rapid Transit (BRT) dedicated lane within the existing motorway from Oshodi to Apapa North and from Eric Moore to Obalende. The project comprises 11 bus stops along Oshodi - Apapa corridor, 2 bus terminals at Oshodi and Apapa North, a terminal at Obalende, upgrading of 3 stations at Leventis, Marina and CMS. Works also comprised pavement condition survey and destructive/non-destructive pavement testing surveys (Cores, Test Pits, DCP) along the existing 20 km 3-lane dual carriageway with 2-lane service roads at both directions, in addition to the analysis and interpretation of survey results, preparation of design calculations for flexible/rigid pavements and shallow/deep foundations for vehicular and foot bridges along the BRT corridor, and preparation of recommendation reports</li><li>- Doha Metro Green Line Elevated Section, Qatar. Detailed design (under BIM management) and tender documents for the Green Line alignment (length of 3.2 km of which 2.7 km are elevated) with 4 highway crossings, one 14,000 m<sup>2</sup> station, and all infrastructure utilities.</li></ul>



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- Construction and Upgrading of Mesameer Road-Project 8/Contract 3, and Al Bustan Street South (P007 C5 P1), Qatar. Concept design and tender documents for the upgrading of a 4 km existing dual carriageway on Mesameer Road from South of Abu Hamour Street Junction to South of Al Waab Street, including road widening to 4 lanes in each direction, parallel at-grade service roads on either side of the main carriageway, new 2-level grade-separated interchange at Abu Hamour Street (including an elevated road on bridge and 900 m long MSE embankment), new 2-level grade-separated interchange at Haloul Street and introduction of a third level overpass at the existing Salwa Road Interchange, including a 1,200 m long elevated structure crossing over both Haloul Street and Salwa Road. The other project component consists of the upgrading of Al Bustan Street (South) to a dual carriageway with a minimum of 4 lanes in each direction from South of Rayyan Road Junction R6 to South of Al Waab Street, including 2-level interchanges at Junctions B1 (Al Waab Street/Al Bustan Street intersection) and B2 (Al Khufos Street/Al Bustan Street intersection), and a mid-block crossing underpass between Junctions R6 and B2.
- Internal Roads, Infrastructure, Parking and Streetscape for Sector 3/2, Abu Dhabi, United Arab Emirates. Concept and detailed design, tender documents and supervision of construction for all infrastructure facilities related to open public spaces and roads within a 17 ha existing district. The proposed public realm area is 167,000 m<sup>2</sup>, of which 47,600 m<sup>2</sup> for pedestrian realm, 69,700 m<sup>2</sup> for roads and car-parking, and 11,900 m<sup>2</sup> for open spaces.
- Bejaia - Autoroute Est-Ouest Highway Link, Algeria. Design review and supervision of construction for a 100 km long road linking Bejaia Port and the Autoroute Est-Ouest through AHNIF Interchange, including all related infrastructure services. The project includes 29 viaducts each exceeding 100 m in length (total of 11.5 km), 5 bridges, 8 interchanges, 45 underpasses, 157 culverts, and 3 lanes in each direction 1,628 m long bi-tube tunnel (6.77 m diameter), landscaping, drainage and street lighting.
- Pavement Evaluation for Defective Roads, Oman. Pavement condition survey and evaluation of existing roads, including planning and result-interpretation of visual surveys, traffic and topographic surveys, destructive and non-destructive pavement testing, and drainage surveys in addition to the recommendation of necessary rehabilitation measures for 6 roads with a total length of 750 km with early pavement defects that were observed shortly after construction.

- 2005 - 2008 With the Laboratory of Geotechnical Engineering, Department of Civil and Structural Engineering, Kyushu University, Fukuoka, Japan, Research Assistant.
- 2003 - 2005 With the Laboratory of Hydraulic Constructions, Civil Engineering Section of the School of Environmental, Civil and Architectural Engineering, Ecole Polytechnique Fédérale de Lausanne (EPFL), Lausanne, Switzerland, Research Associate/Trainee Engineer.
- 2002 - 2003 With Arabian International Contractors (AIC), Egypt, Site Engineer. Worked on the construction of West Alexandria Wastewater Treatment Plant with a capacity of 500,000 m<sup>3</sup>/day. Project value: USD 200 million (financed by USAID).
- 2001 - 2002 With Blue Sky Company for Construction, Egypt, Site Engineer. Worked on the Marine Works for North West Gulf of Suez Thermal Power Plant Project (combined cycle turbines with a capacity of 2x341 MW)
- 2000 - 2001 Military service, Egypt, Site Engineer. Worked on the supervision and inspection of site construction works for various military residential and facility projects in Alexandria, Egypt.

Expert's contact information: email: Islam.Mamdouh@dar.com

Certification:

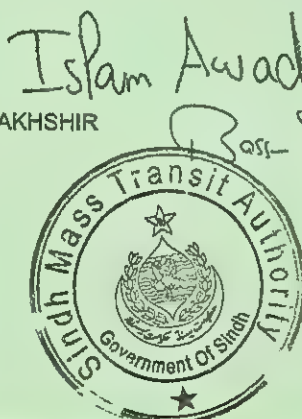
I, the undersigned, certify that to the best of my knowledge and belief, this CV correctly describes myself, my qualifications, and my experience, and I am available to undertake the assignment in case of an award. I understand that any misstatement or misrepresentation described herein may lead to my disqualification or dismissal by the Client, and/or sanctions by the Bank

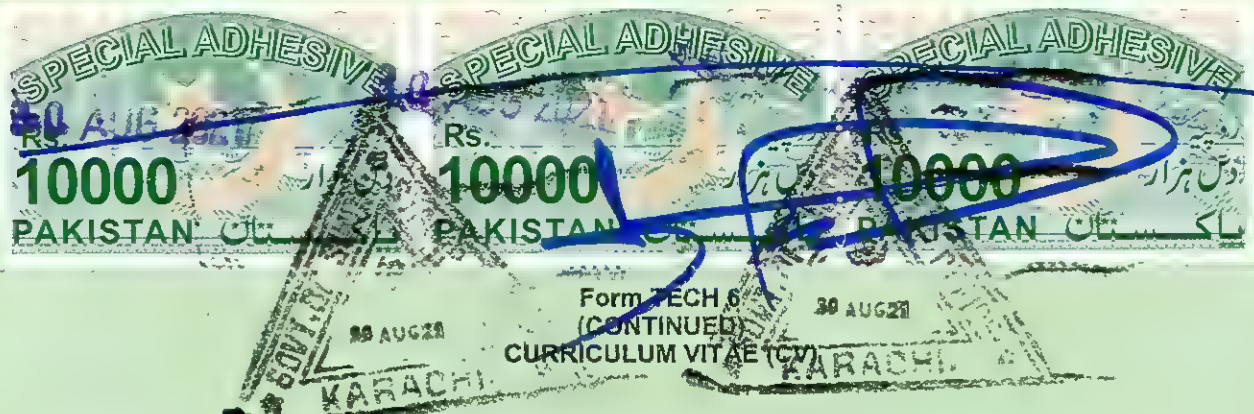
Name of Expert: ISLAM MAMDOUH AWAD

Date: 10/01/2021

Name of authorized Representative: BASSAM T. SHAKHSHIR

Date: 10/01/2021





Position Title and No. Senior Structural/Bridge Engineer  
Name of Expert: GAMAL HELMY HANNA  
Date of Birth: 12/01/1957  
Country of Citizenship/Residence Egyptian, American / CAIRO

**Education:**

PhD, Structural Engineering, Cairo University, Egypt, 2002  
MSc, Structural Engineering, Cairo University, Egypt, 1988  
BSc, Civil Engineering, Cairo University, Egypt, 1980

**Employment record relevant to the assignment:**

Period	Employing Organisation and your title/position. Contact info for references	Country	Summary of activities performed relevant to the Assignment
2007 to date	Dar Al-Handasah Consultants (Shair and Partners) Head of the Department in Cairo	Egypt	Responsible for overseeing and managing all design activities, including coordination with other disciplines and project entities, management of technical documents' preparation, and guiding all technical support activities
1986 - 2007	Dar Al-Handasah Consultants (Shair and Partners) Senior Structural/Bridge Engineer	Egypt	Responsible for the structural design and analysis, including coordination with other disciplines, and preparation of specifications and other technical documents
1981 - 1986	Dr Eng Sabri Samaan Consulting Firm Structural Engineer	Egypt	Participated in the structural design of various projects in Egypt.
1980 - 1981	Arab Consulting Engineers (ACE), Moharram-Bakhour Structural Engineer	Egypt	Participated in the structural design of various projects in Egypt.

**Membership in Professional Associations and Publications:**

Consultant in the Design of Concrete Structures, Egyptian Syndicate of Engineers, since 1995. Registration No.2014/1  
Egyptian Syndicate of Engineers, since 1980. Registration No.1050/8  
Professional Engineer, California, USA, since 2006. Registration No.69851  
International Association for Bridge and Structural Engineering (IABSE), Switzerland  
American Society of Civil Engineers (ASCE)  
Saudi Council of Engineers, since 2011. Registration No.84971  
Society of Engineering, Dubai, United Arab Emirates, since 2013. Registration No.31185

**Publications:**

"Parametric Study of Multispan Cable-Stayed Bridges with Top Stay Cables".

"Evaluation of Prestressing Torsional Moments in Curved Bridges", Proceedings of the FIP Symposium, Post-Tensioned Concrete Structures, Session 7: "Advances in Technology and Design", London, United Kingdom, 25-27 September 1996.

"Modeling of the Elastomeric Bearings for the Seismic Analysis of Precast Girder Bridges". Proceedings of FIP and IABSE Symposium, Bridge Engineering Conference, Sharm El-Sheikh, Sinai, Egypt, March 2000.

"Ultimate Capacity of Multispan Cable-Stayed Bridges while Considering Elastic Buckling". Proceedings of the Eighth Arab Structural Engineering Conference, October 21 - 23, 2000, Egypt.

"Non Linear Behaviour, Failure Loads and Inelastic Buckling of Multispan Cable-Stayed Bridges", Proceedings of the Eighth International Conference on Civil and Structural Engineering Computing, 19-21 September 2001, Vienna, Austria.

"Buckling and Ultimate Capacity of Multi-Span Cable-Stayed Bridges with Consideration of Geometric and Material Nonlinearities", PhD Thesis, Faculty of Engineering, Cairo University, Egypt, 2002.

"Optimum strands Arrangement of Doubly Unsymmetrical precast pre-tensioned Beams", Proceedings of FIB Symposium, Prague, Czech Republic, June 2011.

"Efficient Approach for the Longitudinal Analysis of Curved Bridges Under Permanent Loads, Proceeding of IABSE Symposium, Sharm El-Sheikh, Egypt, May 2012.







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"Considerations for the Design of Doubly Unsymmetrical Precast Prestressed Beams used for box Girder Constructions", Fib Structural Concrete Journal, August 2012.

"Efficient Design and construction of the APM Major Bridge project in Saudi Arabia", Proceedings of IALCCE Symposium, Vienna, Austria, October 2012.

"Effect of Skewness Bridges subjected to Seismic Loading" proceedings of IABSE Symposium, Rotterdam, The Netherlands, May 2013.

"Highlights of the design and construction of a 12 km elevated APM bridge project in Saudi Arabia", Fib Structural concrete, Journal, September 2013.

Language Skills	Reading	Writing	Understanding
Arabic	Excellent	Excellent	Excellent
English	Excellent	Excellent	Excellent
French	Fair	Fair	Fair

**Adequacy for the Assignment:**

**Detailed Tasks Assigned:** Reference to Prior Work/Assignments that Best Illustrates Capability to Handle the Assigned Tasks  
Refer to TECH-5 and TECH-6

Since 1986 With Dar Al-Handasah Consultants (Shair and Partners), Bridges Dept.  
2007 to date Head of the Department in Cairo

Responsible for overseeing and managing all design activities, including coordination with other disciplines and project entities, management of technical documents' preparation, and guiding all technical support activities, for the following projects:

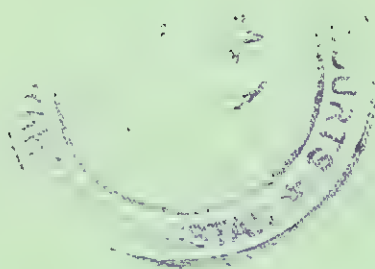
- **Streetscape and Station Design for Riyadh Bus Rapid Transit (BRT) Network, Saudi Arabia.** Detailed designs for the streetscape works (hard and soft) of sidewalks along entire BRT corridors (65 km). Works include creating a pedestrian-friendly environment that is consistent with the vision of the new public transport system. The scope also include the design of 2 terminal stations, 55 in-line stations, 4 park-and-ride sites, 35 pedestrian bridges, 4 types of community bus shops, and 1 type of feeder bus stops.
- **CP07-B - Lusail Towers Infrastructure, LRT Station, Car-Park and Landscape, Qatar.** Detailed design (under BIM management and achieving GSAS 4 stars), tender documents and technical assistance during construction for various project components, including a 2-level tunnel along Road A1, structural and civil works for a combined LRT station of an area of 14,000 m<sup>2</sup>, multi-storey underground car-park, bridge at Junction No.19, and various other infrastructure services and enabling works.
- **Infrastructure Design for Ibom Industrial City - Phase 1, Nigeria.** Detailed design and tender documents for all infrastructure components related to a 2,000 ha site, covering internal roads, accesses, parking areas, and others.
- **Roads Connecting Sabah Al Ahmad and Khiran New Towns, Kuwait.** Design, tender documents, tender management and supervision of works for the upgrading of Road 306 from Shuhaiba Industrial area to Wafra with a length of 38 km and including 2 interchanges, upgrading of Road 309 from Mina Al Zur Interchange to Wafra Farms' existing roundabout with a length of 29 km and including one interchange, upgrading the existing link road (7 km) and construction of a new one (25 km) between Road 306 and Road 309, and construction of new link roads between Nawaseeb Road and Sabah Al Ahmad Town (length of 15 km) as well as between Sabah Al Ahmad and Khiran Towns (14 km). Total length of roads: 128 km
- **Jeddah Ring Road, Saudi Arabia.** Alignment selection, topographic survey, preliminary and final designs, and preparation of tender documents for an 83 km 4-lane dual carriageway comprising 15 grade separated interchanges and 6 crossing bridges; 2 new link roads with a total length of 18 km with 2 interchanges and 2 bridges; drainage network, landscaping and irrigation, street lighting, and road safety features. The scope also comprises utilities diversion and the improvement of 15 existing interchanges along Airport East Road in Jeddah.



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- Riyadh Outer Ring Road, Saudi Arabia. Alignment selection, preliminary and final designs and preparation of tender documents for the following: improvement of Junctions No. 5, 6 and 7 on the Northern Leg of Riyadh Ring Road, improvement of Al-Sena'ia Junction (right in/out-quarter cloverleaf interchange), the outer Eastern Leg from Khurais Road to Al-Harj Road Junction (16 km), completion of the Southern Leg extension and junctions, upgrading of Harun Al-Rasheed and Istanbul at-grade junctions (4 km) to grade-separated interchanges, and Mulhem and North Links (25 km). Works also comprised the upgrading/rehabilitation and addition of interchanges, bridges, intersections, service roads, etc.
- **Greater Cairo Metro Line III - Phase 4b, Egypt.** Detailed design (under BIM management) for a 15.8 km long metro line with 11 stations, extending from the centre of Heliopolis District to Cairo Airport and Cairo Ring Road. The alignment includes a 6.5 km long viaduct; 5 elevated stations, comprising 4 typical twin-track and twin-platform elevated stations and one 3-track twin-platform terminal elevated station with shunting tracks; one depot for heavy and light maintenance (workshop) with 32 buildings; and all wet infrastructure and electromechanical services.
- **Green Line and Red Line North Elevated and At-Grade Design & Build Packages, Qatar.** Design for the Green Line alignment (length of 3.2 km of which 2.7 km are elevated) with 4 highway crossings and one station, and the Red Line North alignment (length of 6.8 km of which 2.2 km are elevated and 2.2 km are in tunnels) with 2 stations and a pedestrian plaza at Lusail Centre Station which provides connectivity between the metro station, LRT system, park-and-ride area to the west, and Lusail City/Lusail Stadium to the east. The scope covered all infrastructure services and electromechanical systems.
- **Princess Nora Bint Abdulrahman University (PNU) - Campus Transit System, Saudi Arabia.** Master plan, design, tender documents and supervision of construction for an 11.85 km dual-track elevated rail system, with 14 air-conditioned stations, 2 bus terminals, 3 pedestrian bridges, and a complete maintenance and storage facility. The fully automated system operates along 4 overlapping routes, with headways as short as 90 seconds, achieving full coverage for the university's housing, academic and administrative facilities. The APM bridge is of pre-tensioned precast C-beams for straight sections, and post-tensioned precast segments for curved sections. Span lengths range from 30 m to 40 m.
- **Doha Metro Green Line Elevated Section, Qatar.** Detailed design (under BIM management) and tender documents for the Green Line alignment (length of 3.2 km of which 2.7 km are elevated) with 4 highway crossings, one 14,000 m<sup>2</sup> station, and all infrastructure utilities.
- **Design and Supervision for Bandra - Worli Sea Link Project, India.** Redesign and supervision of construction for 2 cable-stayed bridges erected in a balanced cantilever manner and a 1,500 m long bridge, part of a 5 km long twin 4-lane viaduct linking Worli and Bandra across Mahim Bay. The redesign provides for a 600 m long cable-stayed bridge with a single-supported tower for a 500 m span crossing Bandra creek, and a 350 m main span cable-stayed bridge with a conventional twin-tower arrangement crossing Worli creek. The viaduct is of 50 m typical span made of precast box girder segments, erected span by span. The bridges comprise state-of-the-art systems for traffic monitoring, street lighting, surveillance, information and guidance, instrumentation, emergency support, etc. Works also included a flyover over Love Grove junction at Worli and a cloverleaf interchange at Mahim intersection.



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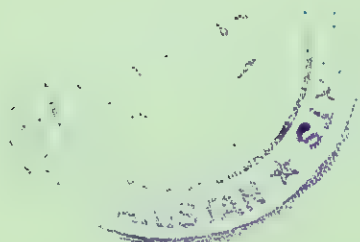


- Versova Bandra Sea Link (VBSL), India. Detailed design and tender documents for a sea link consisting of 9.6 km long, dual 4-lane carriageway main bridge; one cable-stayed bridge (0.3 km long, dual 4-lane carriageway); three balanced cantilever bridges (0.1 km long, dual 4-lane carriageway each); Bandra Connector dual 2-lane carriageway with 1.17 km long trumpet interchange; Otters Club Connector dual 3-lane carriageway with 1.8 km long trumpet interchange; Juhu Koliwada Connector dual 2-lane carriageway with 2.8 km long trumpet interchange; and Versova Connector dual 3-lane carriageway with a partial 1.8 km long trumpet interchange for future extension of the main bridge.
- Autoroute Est-Ouest - East Lot: Pre-Construction Services, Detailed Design Levelling, Execution Drawings and Local Component, Algeria. Reconnaissance site visits, preparation of unified design criteria, review of existing designs, and preparation of construction documents and bills of quantities for 235 km of dual 3-lane toll motorway, comprising 19 viaducts and bridges with a total length of 8.15 km, 3 twin-tube tunnels and one cut-and-cover tunnel with a total length of 5 km, 10 interchanges, 76 overpasses and 32 underpasses.
- Khurais Bridge, Saudi Arabia. Detailed design and supervision of construction for solving the junction at Khurais Interchange and related highway issues, including the addition of a main bridge of 3 spans, 2 direction ramps, and 4 protection frames to protect important current and future potable water pipelines.
- Assir - Jizan Road, Saudi Arabia. Detailed design and tender documents for a 125 km 2-lane dual carriageway main road (design speed: 90 km/h) through a very rough terrain especially in the first 30 km (mainly escarpment) thus requiring 11 twin tunnels (total length of 4,500 m), 55 bridges (total length of 8,800 m) and 10 interchanges. In the locations of bridges and tunnels the road is of 3 lanes in each direction. The design also covered all pavement works, and signing and marking schemes.
- Bridges and Pedestrian Crossings in Mashaer, Saudi Arabia. Detailed design and tender documents for Wadi Muhassar 220 m long/16 m wide pedestrian bridge between Muna and Muzdalifah with several 8 m wide ramps (total length of 500 m); 600 m long/12 m wide pedestrian bridge adjacent to the existing King Abdullah Bridge with three 6 m to 8 m wide ramps (total length of 360 m); 230 m long/12 m wide extension of a pedestrian bridge adjacent to the existing King Abdullah Bridge with a 125 m long/6 m wide ramp; 120 m long/10 m wide underpass in Rabwet Muna with a 100 m long/5 m wide ramp and two 165 m long/8 m wide ramps; and "Muzdalifah 3" Metro Station 400 m long/10 m wide pedestrian bridge to facilitate pilgrims' movement. The adopted structural system is precast prestressed beams resting on RC pier frames.
- Qassim - Jubail Expressway, Saudi Arabia. Design review and supervision of construction for a 45 km expressway consisting of 3 lanes with inner and outer paved shoulders separated by 16 m median in addition to 5 interchanges, underpass, wadi bridge, and railway bridge. The scope also included box culverts, hydrological protections, incidental works, and traffic safety works.
- CP07-B - Pergolas and Bridge 19, Qatar. Detailed design and IFC drawings for the bridge at Junction 19 and two Pergolas. The bridge consists of a single carriageway with two 3.65 m wide vehicle lanes, two 0.5 m wide side distances, two 3.34 m wide service corridors and two 0.5 m wide parapets. The pergolas that are iconic slender structures supported by the trough structure underneath, consist of reinforced concrete frame elements which are curved in the longitudinal and transversal directions. The pergolas carry 4 service roads, each consisting of two 3.65 m wide vehicle lanes, 0.35 m outer shoulder (EDST) and 0.35 m shy distance (shoulder).

1986 - 2007

**Senior Structural/Bridge Engineer**

From October 2003 to April 2004, seconded to T.Y.Lin International where he participated in the construction analysis of the following project:



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- Oakland Bay Bridge, San Francisco, United States. Design and supervision of construction for a dual, 3.6 km long, parallel structure suspension bridge that accommodates 5 lanes of traffic and a light rail transit in each direction as well as a 4.8 m wide pedestrian/bicycle path on the east-bound structure. The bridge lies between the Hayward and the San Andreas faults that are capable of generating 7.5 M and 8.1 M magnitude earthquakes respectively. The bridge crossing is made up of 4 structure types: a low-rise, post-tensioned concrete box girder at the Oakland shore; a 2.4 km long segmental concrete box girder "skyway"; a self-anchored suspension span; and a post-tensioned concrete box girder connecting to the Yereba Buena Island Tunnel. The main span is 385 m long with a back span of 180 m (the largest self-anchored suspension span in the world). The tower is 160 m tall and consists of 4 steel shafts connected with intermittent steel shear links along its height.

Responsible for the structural design and analysis, including coordination with other disciplines, and preparation of specifications and other technical documents, for the following projects:

- Detailed Design for North Road, Qatar. Complementary traffic studies, topographic surveys, preliminary and detailed design, tender documents and supervision of construction for the upgrading of the following freeways to a dual 4-lane structure as well as for all associated works: North Road (98 km) linking Doha and Madinat Al Shamal/AI Ruwais on the north coast; Al Zubara Road (35 km) forming the main approach to Qatar - Bahrain Causeway; and Simaisma Road (8 km) linking North Road to a rapidly developing area on the east coast. Works involved 9 dual carriageway bridges, 11 single carriageway bridges, interchanges, camel crossings, service roads, rest areas, 4 weighing stations, and all infrastructure facilities. The scope also covered concept design and ducting for a future Intelligent Transportation System.
- Autoroute Est-Ouest, CW 133 - El Harrouch Section, Algeria. Final design of a 49 km motorway, including 4 twin-tube tunnels (900 m, 450 m and two of 1,000 m), 6 viaducts (120 m, 488 m, two of 444 m and two of 242 m), 15 special structures, 75 ordinary structures, 4 interchanges, one service area, one rest area and one maintenance area.
- Extension of King Khaled Road - Moaisem Interchange, Makkah, Saudi Arabia. Design and supervision of construction for a directional interchange between the extension of King Khaled Road and Moaisem existing Road to provide a new exit for buses from Muna to Makkah with a total length of 1.5 km for the main line and 4.9 km for the ramps. Works also comprised 2 new parking lots for buses and realignment of the 2 existing parking lots at the interchange area.

1981 - 1986 With Dr Eng Sabri Samaan Consulting Firm, Egypt, Structural Engineer.

1980 - 1981 With Arab Consulting Engineers (ACE), Moharram-Bakhoum, Egypt, Structural Engineer

Expert's contact information: email: Gamal.Helmy@dar.com

Certification:

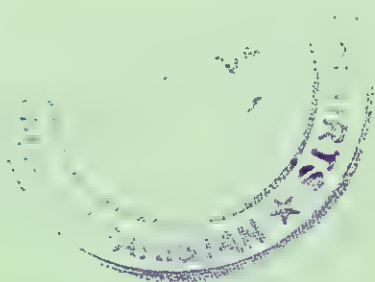
I, the undersigned, certify that to the best of my knowledge and belief, this CV correctly describes myself, my qualifications, and my experience, and I am available to undertake the assignment in case of an award. I understand that any misstatement or misrepresentation described herein may lead to my disqualification or dismissal by the Client, and/or sanctions by the Bank

Name of Expert: GAMAL HELMY HANNA

Date: 18/12/2020

Name of authorized Representative: BASSAM T. SHAKHSHIR

Date: 18/12/2020





SPECIAL ADHESION

Rs

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PAKISTAN

29 AUG 2021

KARACHI

Form TECH 6  
(CONTINUED)  
CURRICULUM VITAE (CV)

Position Title and No.	Senior Bus Rapid Transit System Design Expert
Name of Expert:	Claudio Macedo
Date of Birth:	03/02/1950
Country of Citizenship/Residence	Brazilian

## Education:

BE, Civil Engineering - Mackenzie University, São Paulo, Brazil – 1975  
Master of Transportation Engineering - University of São Paulo, Brazil - 1979

## Employment record relevant to the assignment:

Period	Employing Organisation and your title / position. Contact info for references	Country	Summary of activities performed relevant to the Assignment
2002 – to date	GPO SISTRAN Engenharia Ltda. Technical Director	Brazil	Technical Director/ Project Manager on BRT systems
1991 – 2002	Protran Engenharia Project Manager	Brazil	
1990 – 1991	CET – CIA Engenharia de Tráfego Transports and Administrative Resources Superintendent	Brazil	
1978 – 1990	Metrô – CIA do Metropolitano de São Paulo Maintenance Manager	Brazil	

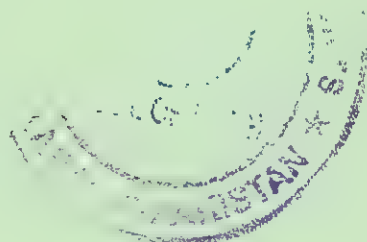
## Membership in Professional Associations and Publications:

Conselho Regional de Engenharia e Agronomia do Estado de São Paulo – CREA / SP

## Other Relevant Training:

"Management of Research and development process" – PACTO/FEAUSP, São Paulo, 1989;  
"Strategic Planning" – CET, São Paulo, 1990;  
"UK Practice on Traffic Calming and Traffic Safety Audits" – USP/University of Leeds, São Paulo, 1997;  
"Quality Management Program in Project Development" – SINAENCO/NGI, São Paulo, 1999;  
"Construction Method for Engineering Structures" – SISTRAN/GPO, São Paulo, 2015;

Language Skills	Reading	Writing	Understanding
Portuguese	Excellent	Excellent	Excellent
English	Excellent	Excellent	Very Good
Spanish	Excellent	Excellent	Excellent





Claudio Macedo

Adequacy for the Assignment:

Detailed Tasks Assigned:  
Refer to TECH-5  
and TECH-6

Reference to Prior Work / Assignments that Best Illustrates Capability to Handle the  
Assigned Tasks

- |                |   |
|----------------|---|
| 2013 –<br>2014 | <p>Name of assignment or project: Noroeste BRT<br/>Year: 2013 - 2014<br/>Location: Brazil<br/>Client: Empresa Metropolitana de Transportes Urbanos de São Paulo S/A – EMTU<br/>Main project features: Feasibility studies, conceptual, basic and detailed design (23,75 km)<br/>Positions held: Technical Director<br/>Activities performed: Leading the technical design team in the following activities:</p> <ul style="list-style-type: none"><li>– Feasibility Studies and Functional Design</li><li>– Conceptual Design</li><li>– Basic Design</li><li>– Detailed Design including:<ul style="list-style-type: none"><li>o 23,75 km dedicated lines</li><li>o BRT Bus stops, 2 Terminals, 1 depot</li><li>o Architecture, MEP, etc. for all facilities</li><li>o Urban Inception, geometry, structures, pavement, drainage, signalling, ITS, etc.</li></ul></li></ul> |
| 2013 –<br>2015 | <p>Name of assignment or project: Guarulhos – São Paulo BRT<br/>Year: 2013 - 2015<br/>Location: Brazil<br/>Client: Empresa Metropolitana de Transportes Urbanos de São Paulo S/A – EMTU<br/>Main project features: Feasibility studies, conceptual, basic and detailed design (3,9 km)<br/>Positions held: Technical Director<br/>Activities performed: Leading the technical design team in the following activities:</p> <ul style="list-style-type: none"><li>– Feasibility Studies and Functional Design</li><li>– Conceptual Design</li><li>– Basic Design</li><li>– Detailed Design including:<ul style="list-style-type: none"><li>o 3,9 km dedicated lines with one Terminal</li><li>o Architecture, MEP, etc. for all BRT bus stops and Terminal</li><li>o Urban Inception, geometry, pavement, drainage, signalling, ITS, etc.</li></ul></li></ul>                |
| 2009 –<br>2010 | <p>Name of assignment or project: São Paulo Metropolitan Region BRT Program<br/>Year: 2009 - 2010<br/>Location: Brazil<br/>Client: Empresa Metropolitana de Transportes Urbanos de São Paulo S/A – EMTU<br/>Main project features: Demand &amp; supply studies, simulation models, alternatives analysis, proposals and recommendations.<br/>Positions held: Project Manager<br/>Activities performed: Managing all project activates</p>   |
| 2011 –<br>2012 | <p>Name of assignment or project: “Corredor Perimetral Leste” Bus Rapid Transit<br/>Year: 2011 - 2012<br/>Location: Brazil<br/>Client: Empresa Metropolitana de Transportes Urbanos de São Paulo S/A – EMTU<br/>Main project features: Preliminary technical and Feasibility Studies, operational and integration studies of a new BRT services with more than 80km length in São Paulo Metropolitan Area.<br/>Positions held: Project Manager<br/>Activities performed: Managing all project activates</p>   |
| 2015 –<br>2017 | <p>Name of assignment or project: Corredor Perimetral Leste 2 - BRT<br/>Year: 2015 - 2017<br/>Location: Brazil<br/>Client: SPTRANS (São Paulo – Tansportes)<br/>Main project features: Basic and detailed design (35,25 km)<br/>Positions held: Technical Director<br/>Activities performed: Leading the technical design team in the following activities:</p> <ul style="list-style-type: none"><li>– Basic Design</li><li>– Detailed Design including:<ul style="list-style-type: none"><li>o 35,25 km dedicated lines</li><li>o BRT Bus stops, 1 Terminals, 1 depot</li><li>o Architecture, MEP, etc. for all facilities</li></ul></li></ul>  |





	<ul style="list-style-type: none"> <li>Urban Inception, geometry, structures, pavement, drainage, signalling, ITS, etc.</li> </ul>
2011 – 2012	<p>Name of assignment or project: "Itaquá – Arujá" Bus Rapid Transit</p> <p>Year: 2011 - 2012</p> <p>Location: Brazil</p> <p>Client: Empresa Metropolitana de Transportes Urbanos de São Paulo S/A – EMTU</p> <p>Main project features: Preliminary technical, operational and integration studies of a new BRT services in São Paulo Metropolitan Area</p> <p>Positions held: Project Manager</p> <p>Activities performed: Managing all project activates</p>
2018 – 2019	<p>Name of assignment or project: CPTM São Paulo. Project for Line 11</p> <p>Year: 2018 - 2019</p> <p>Location: Brazil</p> <p>Client: CPTM</p> <p>Main project features: Executive Projects for the Adaptation of the Stations: Mogi das Cruces, Guaianases, Estudantes, Antônio Gianetti Neto, Juniapeba e Braz Cubas.</p> <p>Positions held: Project Manager</p> <p>Activities performed: Managing all project activates</p>
2018 – 2019	<p>Name of assignment or project: CPTM São Paulo. Project for Line 12</p> <p>Year: 2018 - 2019</p> <p>Location: Brazil</p> <p>Client: CPTM</p> <p>Main project features: Executive Projects for the Adaptation of the Stations: Aracaré and Eng. Manoel Feio.</p> <p>Positions held: Project Manager</p> <p>Activities performed: Managing all project activates</p>
2013 – 2014	<p>Name of assignment or project: CPTM São Paulo. Project for Line 8</p> <p>Year: 2013-2014</p> <p>Location: Brazil</p> <p>Client: CPTM</p> <p>Main project features: Basic Projects for several modifications on Barra Funda Station</p> <p>Positions held: Project Manager</p> <p>Activities performed: Managing all project activates</p>
2013 – 2014	<p>Name of assignment or project: CPTM São Paulo. Project for Line 8</p> <p>Year: 2013-2014</p> <p>Location: Brazil</p> <p>Client: CPTM</p> <p>Main project features: Basic and Executive projects for Leopoldina and Quitaúna Stations. All BIM project.</p> <p>Positions held: Project Manager</p> <p>Activities performed: Managing all project activates</p>
2013 – 2014	<p>Name of assignment or project: CPTM São Paulo. Project for Line 8</p> <p>Year: 2013-2014</p> <p>Location: Brazil</p> <p>Client: CPTM</p> <p>Main project features: "Expresso Oeste-Sul" Suburban Rail Line Study - Functional engineering design, technical, environmental, economic, financial and institutional analysis for the feasibility study for implement a new commuter train service in São Paulo Metropolitan Area, including the concession modeling.</p> <p>Positions held: Project Manager</p> <p>Activities performed: Managing all project activates</p>
2012 – 2012	<p>Name of assignment or project: LINE 9</p> <p>Year: 2012-2012</p>



	Location: Brazil Client: BROOKFIELD / TEGRA Main project features: Basic and Executive Design Project for the new João Dias Station Positions held: Project Manager Activities performed: Managing all project activates
2011 – 2012	Name of assignment or project: LINE 9 Year: 2011-2012 Location: Brazil Client: CPTM Main project features: Functional Estudos for the Adaptation and Urban Integration of the stations: Pres. Altino, CEASA, V. Lobos – Jaguaré – Cidade Universitária, Hebraica – Rebouças, Cidade Jardim, V. Olímpia, Berini, Morumbi, Granja Julieta, Santo Amaro, Socorro, Jurubatuba, Primavera, Interlagos e Grajaú Positions held: Project Manager Activities performed: Managing all project activates
2011 – 2011	Name of assignment or project: LINE 9 Year: 2011-2011 Location: Brazil Client: CPTM Main project features: Functional Project for the Relocation of the CEASA Station. Positions held: Project Manager Activities performed: Managing all project activates
2009 – 2010	Name of assignment or project: LINE 9 Year: 2009-2010 Location: Brazil Client: CPTM Main project features: Morumbi Station Functional Project. Positions held: Project Manager Activities performed: Managing all project activates
2009 – 2010	Name of assignment or project: LINE 9 Year: 2009-2010 Location: Brazil Client: CPTM Main project features: Feasibility Studies for the new Track Construction between Jurubatuba Station and Cidade Universitaria Station. Positions held: Project Manager Activities performed: Managing all project activates
2013 – 2013	Name of assignment or project: LINE 7 Year: 2013 - 2013 Location: Brazil Client: CPTM Main project features: Basic and Executive Design Projects for Caeiras e Várzea Paulista Stations. All BIM project. Positions held: Project Manager Activities performed: Managing all project activates
2011 – 2012	Name of assignment or project: LINE 7 Year: 2011 - 2012 Location: Brazil Client: CPTM Main project features: Basic Project for the V. Aurora Station. Positions held: Project Manager Activities performed: Managing all project activates
2012 – 2013	Name of assignment or project: LINE 7 Year: 2012 - 2013 Location: Brazil Client: CPTM Main project features: Technical, Operational, Environmental and Feasibility Studies for a new commuter train link between Campinas Metropolitan area and Jundiaí. Positions held: Project Manager Activities performed: Managing all project activates



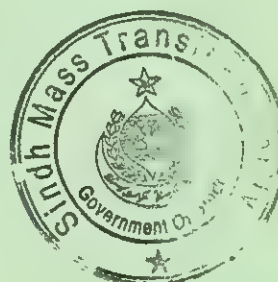


2013 - 2014	<p>Name of assignment or project: LINE 11</p> <p>Year: 2013 - 2014</p> <p>Location: Brazil</p> <p>Client: CPTM</p> <p>Main project features: Basic and Executive Design Projects for Guaianases Station</p> <p>Positions held: Project Manager</p> <p>Activities performed: Managing all project activates</p>
2011 - 2012	<p>Name of assignment or project: LINE 11</p> <p>Year: 2011 - 2012</p> <p>Location: Brazil</p> <p>Client: CPTM</p> <p>Main project features: Functional Project for the new Penha Station</p> <p>Positions held: Project Manager</p> <p>Activities performed: Managing all project activates</p>
2011 - 2012	<p>Name of assignment or project: LINE 12</p> <p>Year: 2011 - 2012</p> <p>Location: Brazil</p> <p>Client: CPTM</p> <p>Main project features: Basic Project of the Comendador Ermelino Station.</p> <p>Positions held: Project Manager</p> <p>Activities performed: Managing all project activates</p>
2010 - 2011	<p>Name of assignment or project: LINE 12</p> <p>Year: 2010 - 2011</p> <p>Location: Brazil</p> <p>Client: CPTM</p> <p>Main project features: Basic Project of the Jardim Romano Station.</p> <p>Positions held: Project Manager</p> <p>Activities performed: Managing all project activates</p>
2010 - 2012	<p>Name of assignment or project: LINE 12</p> <p>Year: 2010 - 2012</p> <p>Location: Brazil</p> <p>Client: CPTM</p> <p>Main project features: Basic and Executive Design Projects of the União de V. Nova Station.</p> <p>Positions held: Project Manager</p> <p>Activities performed: Managing all project activates</p>
2010 - 2012	<p>Name of assignment or project: LINE 12</p> <p>Year: 2010 - 2012</p> <p>Location: Brazil</p> <p>Client: CPTM</p> <p>Main project features: Basic Project of Functional Adaptation of the São Caetano Station.</p> <p>Positions held: Project Manager</p> <p>Activities performed: Managing all project activates</p>
2010 - 2012	<p>Name of assignment or project: LINE 12</p> <p>Year: 2010 - 2012</p> <p>Location: Brazil</p> <p>Client: CPTM</p> <p>Main project features: Basic Project of Functional Adaptation of the Santo André Station.</p> <p>Positions held: Project Manager</p> <p>Activities performed: Managing all project activates</p>



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2014 – 2019	<p>Name of assignment or project: Basic and Executive Project for Ipiranga Station, Line 15.</p> <p>Year: 2014 - 2019</p> <p>Location: Brazil</p> <p>Client: METRO SP</p> <p>Main project features: New Monorail Station to link the Line 15 of the Metro System with the CPTM network. All BIM project.</p> <p>Positions held: Project Manager</p> <p>Activities performed: Managing all project activates</p>
2014 – 2019	<p>Name of assignment or project: Executive Project for Concessioned new Line 6, Metro São Paulo.</p> <p>Year: 2014 - 2019</p> <p>Location: Brazil</p> <p>Client: CEL 6 Consortium.</p> <p>Main project features: Executive Design Project for the new Brasilândia and Vila Cardoso subway Stations, as well as the new "Patio Morro Grande" yard.</p> <p>Positions held: Project Manager</p> <p>Activities performed: Managing all project activates</p>
2015 – 2016	<p>Name of assignment or project: Executive Project for the new Ponte Grande subway Station, Metro São Paulo.</p> <p>Year: 2015 - 2016</p> <p>Location: Brazil</p> <p>Client: METRO SP.</p> <p>Main project features: Executive Design Project for the new Ponte Grande subway Station, Metro São Paulo. All BIM Project.</p> <p>Positions held: Project Manager</p> <p>Activities performed: Managing all project activates</p>
2012 – 2017	<p>Name of assignment or project: Santos LRT Executive Design Project</p> <p>Year: 2012 - 2017</p> <p>Location: Brazil</p> <p>Client: EMTU</p> <p>Main project features: New LRT System executive Project between Santos and São Vicente at "Baixada Santista" area. (18,7 km).</p> <p>Positions held: Project Manager</p> <p>Activities performed: Managing all project activates.</p>
2013 – 2015	<p>Name of assignment or project: Maceió LRT System</p> <p>Year: 2013 - 2015</p> <p>Location: Brazil</p> <p>Client: Secretaria de Infraestrutura do Estado de Alagoas – SEINFRA / AL</p> <p>Main project features: Feasibility studies, environmental studies, urban transport master plan, conceptual and basic design (20,9 km)</p> <p>Positions held: Project Manager</p> <p>Activities performed: Managing all project activates</p>
2007	<p>Name of assignment or project: Private Finance Initiative for the Concession of the São Paulo Metropolitan Area Transportation Services</p> <p>Location: Brazil</p> <p>Client: CPTM – COMPANHIA PAULISTA DE TRENS METROPOLITANOS</p> <p>Main project features: Operational design, finance-economical assessment and technological specifications, including ITS and AFC specifications, and legal consultancy, in order to propose a concession of the metropolitan public transportation services, including AFC services for subway and commuter train services</p> <p>Year: 2007 - 2007</p> <p>Positions held: Project Manager</p> <p>Activities performed: Managing all project activates</p>



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2012	<p>Name of assignment or project: "Penha" Commuter Train Station</p> <p>Year: 2012 - 2012</p> <p>Location: Brazil</p> <p>Client: Cia. Paulista de Trens Metropolitanos - CPTM</p> <p>Main project features: Preliminary technical, operational and integration studies of a commuter train station in São Paulo Metropolitan Area.</p> <p>Positions held: Project Manager</p> <p>Activities performed: Managing all project activates</p>
2008 - 2010	<p>Name of assignment or project: Environmental Studies of Metrô-SP Line 5</p> <p>Year: 2008 - 2010</p> <p>Location: Brazil</p> <p>Client: METRÔ - CIA. DO METROPOLITANO DE SÃO PAULO</p> <p>Main project features: Environmental Impact Study and Environmental Impact Report (EIA/RIMA) e Environmental Basic Project (PBA) of Line 5, Largo 13 - Chácara Klabin stretch of Metrô-SP</p> <p>Positions held: Technical Director</p> <p>Activities performed: Leading the technical design team</p>
2006	<p>Name of assignment or project: Metrô-SP Line 5 Financing</p> <p>Year: 2006 - 2006</p> <p>Location: Brazil</p> <p>Client: ENGER / CPTM - COMPANHIA PAULISTA DE TRENS METROPOLITANOS</p> <p>Main project features: Advice on the execution of the ex post Report of Line 5 - Phase 1- of the São Paulo Metro, constructed by CPTM, in order of the conclusion of the financing by inter-American Development Bank (IADB).</p> <p>Positions held: Technical Director</p> <p>Activities performed: Leading the technical design team</p>

Expert's contact information: Email: cmacedo@gpogroup.com

Certification:

I, the undersigned, certify that to the best of my knowledge and belief, this CV correctly describes myself, my qualifications, and my experience, and I am available to undertake the assignment in case of an award. I understand that any misstatement or misrepresentation described herein may lead to my disqualification or dismissal by the Client, and/or sanctions by the Bank

Name of Expert: Claudio Macedo

Date: 18/12/2020

Name of Authorized Representative: BASSAM T. HAKSHIR

Date: 18/12/2020



## APPENDIX C – REMUNERATION COST ESTIMATES



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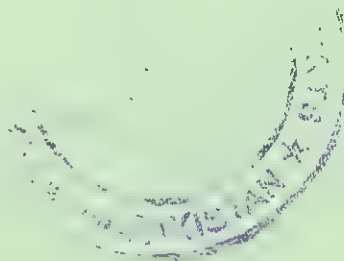


### Form FIN 2: Summary of Costs - Phase 2

Item	Cost	
	USD	Overall Total in Pakistani Rupee
<b>Cost of the Financial Proposal</b>		
Remuneration for Phase 2	\$ 3,267,724	PKR 344,159,878
Reimbursables for Phase 2	\$ 41,340	PKR 145,073,917
Reimbursable for Training during Phase 2 (Provisional Sum)	\$ 70,000	
Sub-Total for Phase 2	\$ 3,379,064	PKR 489,233,794
<b>Total Cost of the Financial Proposal:</b>	<b>\$ 3,379,064</b>	<b>PKR 489,233,794</b>
<b>Local Tax Estimates</b>		
VAT (13%)	\$ 439,278	PKR 63,600,393
Stamp Duty Fee (0.35%)	\$ 11,827	PKR 1,712,318
Withholding Tax (15%) on Non Resident Experts	\$ 506,860	
Total Taxes	\$ 957,965	PKR 65,312,712
<b>Overall Total for Phase 2 Including Taxes</b>	<b>\$ 4,337,029</b>	<b>PKR 554,546,506</b>

**Notes:**

USD to be paid in PKR as mentioned by the Consultant in Financial Proposal has been included in the PKR Component with a conversion rate of 1USD = 160.0152 PKR dated January 8, 2020 (i.e. 7 days prior to submission of proposal) published by the State Bank of Pakistan which is in accordance and in compliance to the ITC 26.1 of the RFP and agreed minutes of negotiations.



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# FORM FIN-3 BREAKDOWN OF REMUNERATION - PHASE 2

A. Remuneration							
No.	Name	Position (as in TECH-6)	Person-month Remuneration Rate		Time Input in Person/Month (from TECH-6)	Total in USD	Total in Pakistani Rupee
				USD      Pakistani Rupee			
Key Experts							
K-1	Bahjat Ghandour	Senior Urban Road & BRT System Expert / Team Leader Design	{Home}	14,550.00			
			{Field}	16,004.00		3.00	48,012.00
K-2	Claudio Macedo	Senior BRT Design Expert	{Home}	22,000.00			
			{Field}	27,500.00		3.00	82,500.00
K-3	Gamal Helmy	Senior Structural / Bridge Design Engineer	{Home}	14,550.00			
			{Field}	16,004.00		3.00	48,012.00
K-4	Islam Mamdouh	Senior Pavement Design Engineers	{Home}	11,450.00			
			{Field}	12,597.00		6.00	75,582.00
K-5	Mohamed Kalloush	Chief Resident Engineer / Team Leader Construction	{Home}				
			{Field}	17,626.00		36.00	634,536.00
K-6	Salahuddin Ahmed Shaikh	Resident Engineer 1	{Home}				
			{Field}	8,825.00		40.50	357,412.50
K-7	Israr Ullah Khan	Resident Engineer 2	{Home}				
			{Field}		700,310.00	34.50	
K-8	Bilal Azam	Senior Contract Management Specialist	{Home}				24,160,695.00
			{Field}	7,488.00		27.00	202,176.00
Non-Key Experts							
N-1	Rehan Zaman	Project Manager	{Home}				
			{Field}		1,002,702	18.00	18,048,636
N-2	TBD	Sr. Geotechnical Engineer	{Home}				
			{Field}	13,175		27.00	355,725
N-3	TBD	Sr. Structure Engineer (Steel)	{Home}				
			{Field}	7,956		28.00	222,768
N-4	TBD	Sr. Structure Engineer (Concrete)	{Home}				
			{Field}		513,071	23.00	11,800,633
N-5	TBD	Sr. Structure Engineer (Bridges)	{Home}				
			{Field}	7,956		24.00	190,944
N-6	TBD	Sr. Roads Engineer / Traffic Safety	{Home}				
			{Field}		395,677	25.00	9,891,925
N-7	TBD	Sr. Materials Engineer	{Home}				
			{Field}	13,175		29.00	382,075
N-8	TBD	Sr. Utilities Engineer	{Home}				
			{Field}		513,071	23.00	11,800,633
N-9	TBD	Sr. Architect	{Home}				
			{Field}		513,071	18.00	9,235,278
N-10	TBD	Sr. Electrical Engineer	{Home}				
			{Field}		513,071	29.00	14,879,059
N-11	TBD	Sr. Mechanical Engineer	{Home}				
			{Field}		740,615	29.00	21,477,835
N-12	TBD	Sr. Landscape Engineer	{Home}				
			{Field}		513,071	10.50	5,387,246
N-13	TBD	BIM Specialist	{Home}				
			{Field}		513,071	21.00	10,774,491
N-14	TBD	Sr. Planning Engineer	{Home}				
			{Field}		513,071	32.25	16,546,540
N-15	TBD	Planning Engineer	{Home}				
			{Field}		340,223	20.00	6,804,460
N-16	TBD	Social Safeguard Specialist	{Home}				
			{Field}		395,677	20.00	7,913,540
N-17	TBD	Sr. Quantity Surveyor	{Home}				
			{Field}	13,175		31.75	444,056
N-18	TBD	Quantity Surveyor 1	{Home}				
			{Field}		166,308	20.00	3,326,160
N-19	TBD	Quantity Surveyor 2	{Home}				
			{Field}		166,308	27.00	4,490,316
N-20	TBD	Sr. HSE Engineer	{Home}				
			{Field}		395,677	29.25	11,573,552
N-21	TBD	HSE Officer 1	{Home}				
			{Field}		198,761	29.00	5,764,069
N-22	TBD	HSE Officer 2	{Home}				
			{Field}		198,761	16.00	3,180,176





FORM FIN-3 BREAKDOWN OF REMUNERATION - PHASE 2

A. Remuneration								
No.	Name	Position (as in TECH-6)	Person-month Remuneration Rate			Time Input in Person/Month (from TECH-6)	Total in USD	Total in Pakistani Rupee
				USD	Pakistani Rupee			
N-23	Martin Wedderburn	NMT Specialist	{Home}	15,000				
			{Field}	16,502		3.00	49,506	
N-24	TBD	Document Controller	{Home}					
			{Field}		100,000	38.00		3,800,000
N-25	TBD	Secretary	{Home}					
			{Field}		76,000	28.00		2,128,000
N-26	TBD	ARE/ Structure Engineer	{Home}					
			{Field}		485,209	4.00		1,940,836
N-27	TBD	Architect	{Home}					
			{Field}		395,677	3.00		1,187,031
N-28	TBD	Mechanical Engineer	{Home}					
			{Field}		395,677	3.00		1,187,031
N-29	TBD	Electrical Engineer	{Home}					
			{Field}		395,677	3.00		1,187,031
N-30	TBD	Land Surveyor	{Home}					
			{Field}		166,308	6.00		997,848
N-31	TBD	ARE/ Structure Engineer	{Home}					
			{Field}		374,185	6.00		2,245,110
N-32	TBD	Architect	{Home}					
			{Field}		395,677	5.00		1,978,385
N-33	TBD	Mechanical Engineer	{Home}					
			{Field}		395,677	4.00		1,582,708
N-34	TBD	Electrical Engineer	{Home}					
			{Field}		395,677	4.00		1,582,708
N-35	TBD	Land Surveyor	{Home}					
			{Field}		166,308	7.50		1,247,310
N-36	TBD	Geotechnical Engineer	{Home}					
			{Field}		513,071	11.50		5,900,316.50
N-37	TBD	ARE/ Structure Engineer	{Home}					
			{Field}		374,185	18.50		6,922,422.50
N-38	TBD	Structure Engineer (Steel)	{Home}					
			{Field}		395,677	10.00		3,956,770
N-39	TBD	Structure Inspector	{Home}					
			{Field}		166,308	20.50		3,409,314
N-40	TBD	Architect	{Home}					
			{Field}		395,677	11.00		4,352,447
N-41	TBD	Mechanical Engineer	{Home}					
			{Field}		395,677	21.50		8,507,055.50
N-42	TBD	Electrical Engineer	{Home}					
			{Field}		395,677	21.50		8,507,055.50
N-43	TBD	Electrical Inspector	{Home}					
			{Field}		166,308	20.50		3,409,314
N-44	TBD	Materials Engineer	{Home}					
			{Field}	2,501		25.50	63,776	
N-45	TBD	Land Surveyor	{Home}					
			{Field}		166,308	28.50		4,739,778
N-46	TBD	Document Controller	{Home}					
			{Field}		100,000	28.50		2,850,000
N-47	TBD	ARE/ Structure Engineer	{Home}					
			{Field}		485,209	21.00		10,189,389
N-48	TBD	Land Surveyor	{Home}					
			{Field}		166,308	22.00		3,658,776
N-49	TBD	Document Controller	{Home}					
			{Field}		100,000	18.00		1,800,000
N-50	TBD	Geotechnical Engineer	{Home}					
			{Field}		513,071	6.00		3,078,426



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FORM FIN-3 BREAKDOWN OF REMUNERATION - PHASE 2

A. Remuneration								
No.	Name	Position (as in TECH-6)	Person-month Remuneration Rate			Time Input in Person/Month (from TECH-6)	Total in USD	Total in Pakistani Rupee
				USD	Pakistani Rupee			
N-51	TBD	ARE/ Structure Engineer	{Home}					
			{Field}		374,185	14.00		5,238,590
N-52	TBD	Structure Engineer (Steel)	{Home}					
			{Field}		395,077	7.00		2,769,739
N-53	TBD	Structure Inspector	{Home}					
			{Field}		166,308	15.00		2,494,620
N-54	TBD	Architect	{Home}					
			{Field}		395,677	9.00		3,561,093
N-55	TBD	Mechanical Engineer	{Home}					
			{Field}		395,677	17.00		6,726,509
N-56	TBD	Electrical Engineer	{Home}					
			{Field}		395,677	17.00		6,726,509
N-57	TBD	Electrical Inspector	{Home}					
			{Field}		166,308	16.00		2,660,928
N-58	TBD	Materials Engineer	{Home}					
			{Field}	2,501		24.00	60,024	
N-59	TBD	Land Surveyor	{Home}					
			{Field}		166,308	24.00		3,991,392
N-60	TBD	Document Controller	{Home}					
			{Field}		100,000	24.00		2,400,000
N-61	TBD	Materials Engineer	{Home}					
			{Field}	2,501		20.00	50,020	
N-62	TBD	ARE/ Civil Engineer	{Home}					
			{Field}		485,209	20.00		9,704,180
N-63	TBD	Site Inspector	{Home}					
			{Field}		166,308	19.00		3,159,852
N-64	TBD	Land Surveyor	{Home}					
			{Field}		166,308	20.00		3,326,160
N-65	TBD	Document Controller	{Home}					
			{Field}		100,000	20.00		2,000,000
Total Costs						1,349.75	S 3,267,724	PKR 344,159,878



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**Model Form I**  
**Breakdown of Agreed Fixed Rates in Consultant's Contract**



*[Handwritten signature]*





## APPENDIX D – REIMBURSABLE EXPENSES COST ESTIMATES



*[Handwritten signature]*

Form FIN-4 Breakdown of Reimbursable Expenses - PHASE 2

B. Reimbursable Expenses									
Nº	Type of Reimbursable Expenses	Unit	Unit Cost in USD	Unit Cost in USD paid in PKR	Unit Cost in PKR	Quantity	Total USD	Conversion USD to PKR (1 USD = 160.0152) PKR	Overall Total in Pakistani Rupee
1	Travel Allowance	L.S							
2	International Flights								
	Caro - Karachi - Caro	Tnp	880			24	21,120		
	San Paulo - Karachi - San Paulo	Tnp	2,260			6	13,560		
	London - Karachi - London	Tnp	1,110			6	6,660		
3	Hotel Accommodation	MM		3,970		18		11,434,681	11,434,681
4	Per diem	MM		1,725		18		4,968,470	4,968,470
5	Local Transportation	MM		1,725		18		4,968,470	4,968,470
6	Vehicles during construction								
	Vehicle - Chief RE	Car/Month		1,250		30		6,000,567	6,000,567
	Vehicle - RE-1	Car/Month		1,250		36		7,200,681	7,200,681
	Vehicle - Sr. Contract Manager	Car/Month		625		24		2,400,227	2,400,227
	Vehicle - Sr. Geotechnical Engineer	Car/Month		625		27		2,700,255	2,700,255
	Vehicle - Sr. Structural Engineer (Steel)	Car/Month		625		28		2,800,265	2,800,265
	Vehicle - Sr. Structural Engineer (Bridge)	Car/Month		625		24		2,400,227	2,400,227
	Vehicle - Sr. Material Engineer	Car/Month		625		29		2,900,274	2,900,274
	Vehicle - Sr. Quantity Engineer	Car/Month		625		31.75		3,175,340	3,175,340
	Vehicle - RE-2	Car/Month			152,000	34.5			5,244,000
	Vehicle (Package-1)	Car/Month			252,000	12			3,024,000
	Vehicle (Package-2)	Car/Month			252,000	15			3,780,000
	Vehicle (Package-3)	Car/Month			252,000	28.5			7,182,000
	Vehicle (Package-4)	Car/Month			252,000	24			6,048,000
	Vehicle (Package-5)	Car/Month			252,000	24			6,048,000
	Vehicle (Package-6)	Car/Month			252,000	20			5,040,000
	Vehicle (Field Design Support Services) - Single Shift	Car/Month			160,000	36			5,760,000
	Vehicle (Field Design Support Services) - Single Shift	Car/Month			160,000	36			5,760,000
7	Salaries for 20 Trainees during Construction	MM		350		720		40,323,813	40,323,813
II	Vehicles during DNP								
	Vehicle - Chief RE	Car/Month		1,250		6		1,200,113	1,200,113
	Vehicle - RE-1	Car/Month		1,250		4.5		900,085	900,085
	Vehicle - Sr. Contract Manager	Car/Month		625		3		300,028	300,028
	Vehicle - Sr. Quantity Engineer	Car/Month		625		2		200,019	200,019
	Vehicle - RE-2	Car/Month			152,000	4.5			684,000
	Vehicle (Package-1)	Car/Month			152,000	2			304,000
	Vehicle (Package-2)	Car/Month			152,000	2			304,000
	Vehicle (Package-3)	Car/Month			152,000	2			304,000
	Vehicle (Package-4)	Car/Month			152,000	2			304,000
	Vehicle (Package-5)	Car/Month			152,000	2			304,000
	Vehicle (Package-6)	Car/Month			252,000	2			504,000
9	Miscellaneous Local Expenses	L.S			606,400	1			606,400
Total Costs							\$ 41,340	PKR 93,873,517	PKR 51,200,400
									PKR 145,073,917

Notes:  
USD to be paid in PKR as mentioned by the Consultant in Financial Proposal has been included in the PKR Component with a conversion rate of 1USD = 160.0152 PKR dated January 8, 2020 (i.e. 7 days prior to submission of proposal) published by the State Bank of Pakistan which is in accordance and in compliance to the ITC 26.1 of the RFP



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**APPENDIX E - FORM OF ADVANCE PAYMENTS GUARANTEE***[See Clause GCC 46.1(a) and SCC 46.1(a)]**{Guarantor letterhead or SWIFT identifier code}***Bank Guarantee for Advance Payment****Guarantor:** \_\_\_\_\_ *[insert commercial Bank's Name, and Address of Issuing Branch or Office]***Beneficiary:** \_\_\_\_\_ *[insert Name and Address of Client]***Date:** \_\_\_\_\_ *[insert date]* \_\_\_\_\_**ADVANCE PAYMENT GUARANTEE No.:** \_\_\_\_\_ *[insert number]* \_\_\_\_\_

We have been informed that \_\_\_\_\_ *[name of Consultant or a name of the Joint Venture, same as appears on the signed Contract]* (hereinafter called "the Consultant") has entered into Contract No. \_\_\_\_\_ *[reference number of the contract]* dated \_\_\_\_\_ *[insert date]* with the Beneficiary, for the provision of \_\_\_\_\_ *[brief description of Services]* (hereinafter called "the Contract").

Furthermore, we understand that, according to the conditions of the Contract, an advance payment in the sum of \_\_\_\_\_ *[insert amount in figures]* (\_\_\_\_\_) *[amount in words]* is to be made against an advance payment guarantee.

At the request of the Consultant, we, as Guarantor, hereby irrevocably undertake to pay the Beneficiary any sum or sums not exceeding in total an amount of \_\_\_\_\_ *[amount in figures]* (\_\_\_\_\_) *[amount in words]*<sup>1</sup> upon receipt by us of the Beneficiary's complying demand supported by the Beneficiary's a written statement, whether in the demand itself or in a separate signed document accompanying or identifying the demand, stating that the Consultant is in breach of its obligation under the Contract because the Consultant:

- (a) has failed to repay the advance payment in accordance with the Contract conditions, specifying the amount which the Consultant has failed to repay;
- (b) has used the advance payment for purposes other than toward providing the Services under the Contract.

<sup>1</sup> The Guarantor shall insert an amount representing the amount of the advance payment and denominated either in the currency(ies) of the advance payment as specified in the Contract, or in a freely convertible currency acceptable to the Client.



It is a condition for any claim and payment under this guarantee to be made that the advance payment referred to above must have been received by the Consultant on its account number \_\_\_\_\_ at \_\_\_\_\_ *[name and address of bank]*.

The maximum amount of this guarantee shall be progressively reduced by the amount of the advance payment repaid by the Consultant as indicated in certified statements or invoices marked as "paid" by the Client which shall be presented to us. This guarantee shall expire, at the latest, upon our receipt of the payment certificate or paid invoice indicating that the Consultant has made full repayment of the amount of the advance payment, or on the \_\_ day of *[month]* \_\_\_\_\_, *[year]* \_\_,<sup>2</sup> whichever is earlier. Consequently, any demand for payment under this guarantee must be received by us at this office on or before that date.

This guarantee is subject to the Uniform Rules for Demand Guarantees (URDG) 2010 revision, ICC Publication No. 758.

\_\_\_\_\_  
*[signature(s)]*

*{Note: All italicized text is for indicative purposes only to assist in preparing this form and shall be deleted from the final product.}*

<sup>2</sup> Insert the expected expiration date. In the event of an extension of the time for completion of the Contract, the Client would need to request an extension of this guarantee from the Guarantor. Such request must be in writing and must be made prior to the expiration date established in the guarantee. In preparing this guarantee, the Client might consider adding the following text to the form, at the end of the penultimate paragraph: "The Guarantor agrees to a one-time extension of this guarantee for a period not to exceed [six months] [one year], in response to the Client's written request for such extension, such request to be presented to the Guarantor before the expiry of the guarantee."





## APPENDIX F - CODE OF CONDUCT (ES)



A handwritten signature in blue ink, consisting of stylized, overlapping letters.



Dar Al-Handasah Consultants  
(Shair and Partners)

in Joint Venture

**NES** National Engineering Services  
**PAK** Pakistan (Pvt.) Limited

## FORM TECH-7 (FOR FTP AND STP)

### CODE OF CONDUCT FOR EXPERTS (ES) FORM

We are the Consultant, M/s Dar Al Handasah Consultants (Shair and Partners) in joint venture with M/s National Engineering Services Pakistan (Pvt) Limited. We have signed a contract with **Sindh Mass Transit Authority for Consulting Services for Preparation of Detailed Design, Procurement Support and Construction Supervision for Karachi Mobility Project (Yellow BRT)**. These Services will be carried out at **Karachi**. Our contract requires us to implement measures to address environmental and social risks related to the Services, including the risks of sexual exploitation, sexual abuse and sexual harassment.

This Code of Conduct is part of our measures to deal with environmental and social risks related to the Services. It applies to all Experts in places where the Services are being carried out.

This Code of Conduct identifies the behavior that we require from all Experts.

Our workplace is an environment where unsafe, offensive, abusive or violent behavior will not be tolerated and where all persons should feel comfortable raising issues or concerns without fear of retaliation.

### REQUIRED CONDUCT

Experts shall:

1. carry out his/her duties competently and diligently;
2. comply with this Code of Conduct and all applicable laws, regulations and other requirements, including requirements to protect the health, safety and well-being of other Experts and any other person;
3. maintain a safe working environment including, as applicable, by:
  - a. ensuring that workplaces, equipment and processes under each person's control are safe and without risk to health;
  - b. wearing required personal protective equipment; and
  - c. following applicable emergency operating procedures.
4. report work situations that he/she believes are not safe or healthy and remove himself/herself from a work situation which he/she reasonably believes presents an imminent and serious danger to his/her life or health;
5. treat other people with respect, and not discriminate against specific groups such as women, people with disabilities, migrant workers or children;
6. not engage in Sexual Harassment, which means unwelcome sexual advances, requests for sexual favors, and other verbal or physical conduct of a sexual nature with other Experts, Contractor's Personnel (if applicable) or Client's Personnel;
7. not engage in Sexual Exploitation, which means any actual or attempted abuse of position of vulnerability, differential power or trust, for sexual purposes, including, but not limited to, profiting monetarily, socially or politically from the sexual exploitation of another;







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**PAB** Pakistan (Pvt.) Limited

8. not engage in Sexual Abuse, which means the actual or threatened physical intrusion of a sexual nature, whether by force or under unequal or coercive conditions;
9. not engage in any form of sexual activity with individuals under the age of 18, except in case of pre-existing marriage;
10. complete relevant training courses that will be provided related to the environmental and social aspects of the Contract, including on health and safety matters, Sexual Exploitation and Abuse (SEA), and Sexual Harassment (SH);
11. report violations of this Code of Conduct; and
12. not retaliate against any person who reports violations of this Code of Conduct, whether to us or the Client, or who makes use of grievance mechanism for Experts, if any, or the project's Grievance Redress Mechanism.

#### RAISING CONCERNS

If any person observes behaviour that he/she believes may represent a violation of this Code of Conduct, or that otherwise concerns him/her, he/she should raise the issue promptly. This can be done in the following way:

1. Contact **Mr. Saeed Hussain** in writing at this address **13th Floor, NICL Building, Abbasi Shaheed Road, Karachi** or by telephone at **021-99090600**.

The person's identity will be kept confidential, unless reporting of allegations is mandated by the country law. Anonymous complaints or allegations may also be submitted and will be given all due and appropriate consideration. We take seriously all reports of possible misconduct and will investigate and take appropriate action. We will provide warm referralsto service providers that may help support the person who experienced the alleged incident, asappropriate.

There will be no retaliation against any person who raises a concern in good faith about any behavior prohibited by this Code of Conduct. Such retaliation would be a violation of this Code of Conduct.







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In Joint Venture

**NES** National Engineering Services  
**PAK** Pakistan (Pvt.) Limited

### CONSEQUENCES OF VIOLATING THE CODE OF CONDUCT

Any violation of this Code of Conduct by Experts may result in serious consequences, up to and including termination and possible referral to legal authorities.

#### FOR EXPERT:

I have received a copy of this Code of Conduct written in a language that I comprehend. I understand that if I have any questions about this Code of Conduct, I can contact *[enter name of Consultant's contact person(s) with relevant experience]* requesting an explanation.

Name of Expert: *[insert name]*

Signature: \_\_\_\_\_

Date: (day month year): \_\_\_\_\_

Countersignature of authorized representative of the Consultant:

Signature: \_\_\_\_\_ Date: (day  
month year): \_\_\_\_\_

**ATTACHMENT 1: Behaviors constituting Sexual Exploitation and Abuse (SEA)  
and behaviors constituting Sexual Harassment (SH)**







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**ATTACHMENT 1 TO THE CODE OF CONDUCT FORM**  
**BEHAVIORS CONSTITUTING SEXUAL EXPLOITATION AND ABUSE (SEA) AND**  
**BEHAVIORS CONSTITUTING SEXUAL HARASSMENT (SH)**

The following non-exhaustive list is intended to illustrate types of prohibited behaviors:

**(1) Examples of sexual exploitation and abuse** include, but are not limited to:

- An Expert tells a member of the community that he/she can get them jobs related to the Services (e.g. cooking and cleaning) in exchange for sex.
- An Expert that is connecting electricity input to households says that he can connect women-headed households to the grid in exchange for sex.
- An Expert rapes, or otherwise sexually assaults a member of the community.
- An Expert denies a person access to the Site unless he/she performs a sexual favor.
- An Expert tells a person applying for employment under the Contract that he/she will only hire him/her if he/she has sex with him/her.

**(2) Examples of sexual harassment in a work context**

- An Expert comment on the appearance of another Expert (either positive or negative) and sexual desirability.
- When An Expert complains about comments made by another Expert on his/her appearance, the other Expert comment that he/she is "asking for it" because of how he/she dresses.
- Unwelcome touching of an Expert or Employer's Personnel by another Expert.
- An Expert tells another Expert that he/she will get him/her a salary raise, or promotion if he/she sends him/her naked photographs of himself/herself.

